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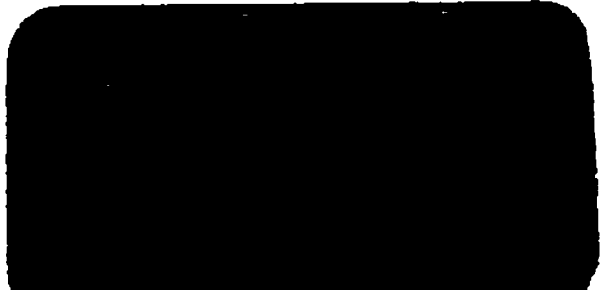
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BRODIX'S AMERICAN AND ENGLISH PATENT CASES.

VOL. XIII.

DECISIONS

ON THE LAW OF

PATENTS FOR INVENTIONS

RENDERED BY

THE UNITED STATES SUPREME COURT.

FROM THE BEGINNING.

THIS VOLUME FROM

102 U. S. (12 OTTO,) - 105 U. S. (15 OTTO,)
1880. 1882.

EDITED AND ANNOTATED

BY

WOODBURY LOWERY.

WASHINGTON, D. C.

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EXPLANATION OF NOTES.

The Text of the Opinion.

The text of the opinion of the court is taken wholly from the record, and not from the official reporter. The reason for this is that the record is the original source from which the reporter himself obtains his matter ; that it is complete, no cases decided by the court being omitted therefrom ; that on application to the clerk of the court for a certified copy of an opinion, it is the copy of the opinion as it appears in the record, and not as printed in the official report that he furnishes.

Prominent among the advantages secured by printing the record, is the fact that the statement of the case, involving all those facts which the court considers material to the understanding of its opinion is made by the court itself, strictly in view of its decision, concisely and judicially, whereas the official reporters, Wallace and Otto, have omitted whole pages of the statement as made by the court, substituting their own, or have so amended and varied the court's statement as to make it practically a new one. The case of *Railroad Co. v. Mellon*, reported in this volume, is a notable example, on consulting which the foot notes appended will be found to point out the variation of the official reporter from the original record.

It will also be observed that this practice of these reporters has often been the cause of omitting in their reports the introductory part of the opinion as given in the record, supplying it from their own point of view and actually beginning the report of the opinion at an intermediate point of the record.

The text in this work has been prepared from printed certified copies of the record, and has undergone a second comparison while in type before printing made directly with the original record in the Supreme Court, giving an assurance that no effort has been spared to secure accuracy.

It has further been compared with the officially published reports and the

EXPLANATION OF NOTES.

divergences of the latter from the record pointed out in foot-notes to each case where they occur, in justification of the course pursued by the editor, and for the convenience of the profession.

The Syllabi, or The Head-Notes.

The head-notes have been prepared with care and considerable elaboration, the editor deeming it more convenient to the profession that he should err on the side of too great minutia in calling their attention even to what may be regarded as *dicta* of the court. At the end of each head-note will be found between brackets, the page of the opinion of which it is a digest. The head-notes are numbered consecutively and at the end of each case there will be found under the corresponding number of the head-note a note of Supreme Court Patent Cases, in chronological order, relative to the subject-matter of the head-note.

The Annotations, or Notes at ending of Case.

Notes at ending of case are of three kinds: those in the form of notes to the head-notes; those relating to the patent in suit; and those relating to cases in which the particular case reported has been cited.

Notes to the head-notes. These consist of Supreme Court Patent Cases, arranged in chronological order, in which the substance of the head-note has been restated, affirmed, or applied, as the case may be; these have been brought down to the latest decisions of the court accessible at the date of printing the volume.

The patent in suit is next given with its reissues, if any, followed by a chronological list of all reported Federal suits in which the patent has been involved.

Citations of the particular opinion. Then follows a list of those cases in which the opinion reported has been cited. This list includes Federal, State, and Canadian Cases, opinions of the Attorney-General, and of the Commissioner of Patents, and the latest text-books, Curtis, 4th Edit., Walker, Merwin, and Abbott.

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Additional References, &c.

To facilitate the finding of any case appearing in the notes, not only is the original report given, but also volume and page of Robb, Fisher, Banning and Arden, and others in which it is reprinted.

Both in the opinion and arguments the rule has been followed of adding the *names* to cases cited by page and volume only, these additions to the text being included in brackets.

Blank lined spaces after each note and a blank page at the end of each case are left for the insertion of additional citations and of general notes.

Tables.

There are added a number of tables and two indexes for ready reference. These are Tables of Cases, Reference Table of Cases, Table of Patents in Suit, of Cases Cited, of Abbreviations, of Names of Justices, of Names of Counsel, an Index Digest, and a Digest of Notes.

Reference is made throughout the work to the volume and page of the English cases already published as part of this series, wherever they occur.

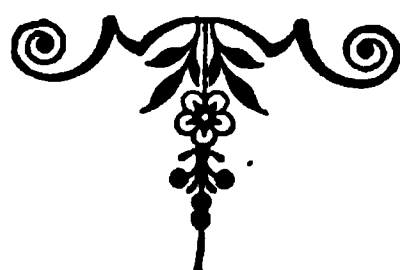
WOODBURY LOWERY.

WASHINGTON, D. C.

May 1, 1889.

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The object of comparing the pages in these cases is for convenience of reference showing where the text in the opinion of the court on each page of the Official Report is found in this edition, or if an attorney wishes to cite the Official Reports while using these volumes, he can readily do so by turning to this table and finding on what page in the official edition any page of the Opinion of the Court in this volume may be found.

In making this comparison, out of justice to ourselves, where we have inserted new material such as drawings, specifications, arguments of counsel, statements, and parts of the opinion from the records which are not found in the Official edition we have so indicated.

As an example in the use of this table take the case of *Egbert v. Lippmann*, which begins in 104 U. S. on page 333—see first column; in this volume, page 273—see third column; the opinion of the court begins in U. S. on page 333—see second column; in this volume, page 278—see fourth column, and thus through the opinion each page is compared. We have inserted in this volume many drawings and specifications which are not found in the Official Reports, and any omission in the consecutive numbering of the pages can be accounted for in the same manner.

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" "	3 Cliff. 563	276. A.
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Woodworth v. Sherman	3 Story, 171	136. A.
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Wooster v. Calhoun	11 Blatch. 215	127. A.
Wyeth v. Stone	1 Story, 281	275, 293. A.

TABLE OF ABBREVIATIONS

OF THE TITLE OF REPORTS AND WORKS OF LAW USED IN THIS
VOLUME.

Abb. Pat. Laws	Abbott's Patent Laws of all Nations.
Abb. U. S.	Abbott, U. S. Circuit Court.
Ad. & Ell. (N. S.)	Adolphus & Ellis, England, K. B.
Amb.	Ambler, England, Chancery.
Am. Law Jour.	American Law Journal.
Am. Law Reg. (N. S.)	American Law Register (New Series.)
Am. & Eng.	American & English Patent Cases.
Amer. Rep.	American Reports (selected cases.)
App. Cas.	Appeal Cases, English Law Reports.
Att'y Gen.	Attorney General's Decisions.
B. & A.	Banning & Arden's Patent Cases, U. S.
B. & Ald.	Barnewall & Alderson, England, K. B.
Bald.	Baldwin, U. S. Circuit Court.
Ban. & Ard.	Banning & Arden's Patent Cases, U. S.
Barb.	Barbour's New York Chancery Reports.
Best & S.	Best & Smith, England, Q. B.
Bing. (N. C.)	Bingham's New Cases, England, C. P.
Biss.	Bissell, U. S. Circuit Court.
Black	Black, U. S. Supreme Court.
Blatch.	Blatchford, U. S. Circuit Court.
Bond	Bond, U. S. Circuit Court.
Bro. Ch.	Brown, England, Chancery.
Brock.	Brockenbrough, U. S. Circuit Court.
Brodix	Brodix's American & English Patent Cases.
Burr.	Burrows, England, K. B.
C. B. (N. S.)	Common Bench Reports, New Series.
C. D.	Commissioner of Patents' Decisions, U. S.
Ch. Leg. N.	Chicago Legal News.
C. & F.	Clark & Finnelly's House of Lords Reports, England.
Cal.	California Reports.
Cent. L. J.	Central Law Journal.
Carp.	Carpmael's Patent Cases, England.
Cliff.	Clifford, U. S. Circuit Court.
Com. Dec.	Commissioner of Patents' Decisions, U. S.
Comst.	Comstock's Reports (1-4 New York Court of Appeals.)

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Cond. (Repa.)	Peters' Condensed Reports, U. S. Supreme Court.
Conn.	Connecticut Reports.
Cow.	Cowen's New York Reports.
Cowper	Cowper's English King's Bench Reports.
Cranch.	Cranch, U. S. Supreme Court.
Ct. of Cl.	Court of Claims, U. S.
Curt.	Curtis, U. S. Circuit Court.
Curtis on Pata.	Curtis on Patents, U. S.
Cush.	Cushing's Massachusetts Reports.
Dall.	Dallas, U. S. Circuit Court.
Dan. Ch. Pr.	Daniell's Chancery Practice.
Denio	Denio's New York Reports.
Dickens	Dickens' Report, England, Chancery.
Dill	Dillon, U. S. Circuit Court.
E. & B.	Ellis & Blackburn, England, Q. B.
Ellis & B.	Ellis & Blackburn, England, Q. B.
Eng. C. L. (C. B. N. S.)	English Common Law Reports.
Eng. L. & E.	English Law & Equity Reports.
Exch.	Exchequer.
Exch. W. H. & G.	Exchequer Reports (Welsby, Hurlstone & Gordon,) England.
Fed. Rep.	Federal Reporter, U. S.
Field on Corp.	Field on Corporations.
Fish.	Fisher's Patent Cases, U. S.
Fish. Pat. Rep.	Fisher's Patent Reports, U. S.
Flipp.	Flippin, U. S. Circuit Court.
Gall.	Gallison, U. S. Circuit Court.
Godson on Pata.	Godson on Patents, England.
Gratt.	Grattan's Virginia Reports.
Gray	Gray's Massachusetts Reports.
Greenl. Ev.	Greenleaf on Evidence.
H. of L.	House of Lords' Cases.
H. & N.	Hurlstone & Norman, England, Exch.
Har. & Gill	Harris & Gill's Maryland Reports.
Har. & J.	Harris & Johnson's Maryland Reports.
Harr.	Harrington's Delaware Reports.
Hemp.	Hempstead, U. S. Circuit Court.
Hind. Pat.	Hindmarch on Patents, England.
Hob.	Hobart, England, K. B.
Holmes	Holmes, U. S. Circuit Court.
How.	Howard, U. S. Supreme Court.
Hughes	Hughes, U. S. Circuit Court.
Hun.	Hun's New York Supreme Court Reports.
Hurl. & Colt.	Hurlstone & Coltman, England, Exch.
Hurl. & Nor.	Hurlstone & Norman, England, Exch.
Ill.	Illinois Reports.

Ind. Rep.	Indiana Reports.
Jacob	Jacob's Reports, England Chancery.
Johns.	Johnson's New York Reports.
Kerr Inj.	Kerr on Injunctions.
Kay	Kay's Vice-Chancellors' Report, England.
Kay & Johns.	Kay and Johnson's Vice-Chancellors' Report, England.
Kent Com.	Kent's Commentaries on American Law.
L. ed.	Lawyer's Edition of Supreme Court Reports.
L. J. N. S.	The Law Journal, New Series, London.
L. R. C. P.	English Law Reports, Common Pleas.
L. R. Ch. App.	English Law Reports, Chancery Appeal Cases.
L. R. Eq.	English Law Reports, Equity.
L. Times (N. S.)	Law Times, New Series.
Law's Am. Dig.	Law's American Digest of Patents.
Law's Dig.	Law's Digest, London.
Law Rep.	Law Reporter.
Law T. (N. S.)	Law Times Reports, New Series.
Leg. Int.	Legal Intelligencer.
M. & Cr.	Milne & Craig, England, Ch.
M. & W.	Meeson & Welsby, England, Exch.
MacA.	MacArthur's District of Columbia Reports.
MacA. & McK.	MacArthur & Mackey, U. S. Circuit Court.
McAll.	McAllister, U. S. Circuit Court.
McC.	McCrary, U. S. Circuit Court.
McL.	McLean, U. S. Circuit Court.
McLean	McLean, U. S. Circuit Court.
Mackey	Mackey, U. S. Circuit Court.
Mad.	Maddock's English Chancery Reports.
Maine	Maine Reports.
Man. & G.	Manning and Granger's English Common Pleas Reports.
Man. G. & Scott	Manning, Granger, & Scott, England, C. P.
Marsh.	Marshall, England, C. P.
Mas.	Mason, U. S. Circuit Court.
Mass.	Massachusetts Reports.
Md.	Maryland Reports.
Me.	Maine Reports.
Mees. & W.	Meeson & Welsby, England, Exch.
Merwin on Pat. Invt.	Merwin on Patentability of Inventions.
Met.	Metcalf's Massachusetts Reports.
Mich. Rep.	Michigan Reports.
Minn.	Minnesota Reports.
Mod.	Modern Reports, England, K. B.
Ms. D. C.	Manuscript Cases, District of Columbia.
Munf.	Munford's Virginia Reports.
N. E. Rep.	North-Eastern Reporter.

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N. H.	New Hampshire Reports.
N. Y.	New York Court of Appeals Reports.
N. Y. Leg. Obs.	New York Legal Observer.
New Eng. R.	New England Reporter.
Norman on Pata.	Norman on Letters Patent.
O. G.	Official Gazette of Patent Office, U. S.
Ohio	Ohio State Reports.
Otto	Otto's United States Supreme Court Reports.
Pa.	Pennsylvania Reports.
Pa. Law Jour. Rep.	Pennsylvania Law Journal Reports.
Paige Ch. R.	Paige's New York Chancery Reports.
Paine	Paine, U. S. Circuit Court.
Parson. Cont.	Parson on Contracts.
Pet.	Peters, U. S. Supreme Court.
Pet. C. C.	Peters, U. S. Circuit Court.
Phila.	Philadelphia Reports.
Pick.	Pickering's Massachusetts Reports.
Pitta. R.	Pittsburgh Reports.
Potter on Corporations	Potter on Corporations.
Q. B.	Queen's Bench Reports.
Q. B. D.	Queen's Bench Division, English Law Reports.
R. & M.	Russell & Mylne, England, Ch.
Rep.	The Reporter, U. S.
R. I.	Rhode Island Reports.
Robb.	Robb's Patent Cases.
Russ.	Russell, England, Chancery.
Russ. & M.	Russell & Mylne Chancery Reports, England.
Salk.	Salkeld, England, K. B.
Sawyer.	Sawyer, U. S. Circuit Court.
Scott (N. R.)	Scott's New Reports, England, C. P.
Seld.	Selden Reports (5-10 N. Y. Court of Appeals.)
Sm. Ch. Pr.	Smith's Chancery Practice.
Sm. Lead. Cas.	Smith's Leading Cases.
Story	Story, U. S. Circuit Court.
Story Eq. Pl.	Story on Equity Pleading.
Story on Agency	Story on Agency.
Sumn.	Sumner, U. S. Circuit Court.
Sup. Ct. Rep. N. Y.	Superior Court Reports, New York.
T. R.	Term Reports (Durnford & East,) England.
Taney	Taney, U. S. Circuit Court.
Taunt.	Taunton, England, C. P.
Term R.	Term Reports (Durnford & East,) England.
U. S.	United States Supreme Court Reports.
Ves.	Vesey, England, Ch.
Vern.	Vernon, England, Ch.
Vict.	Victorian Consolidated Statutes.
Vt.	Vermont Reports.

TABLE OF ABBREVIATIONS.

W. & M.	Woodbury & Minot, U. S. Circuit Court.
Walker on Pats.	Walker on Patents.
Wall.	Wallace, U. S. Supreme Court.
Wall., Jr.	Wallace, Jr., U. S. Circuit Court.
Wash. C. C.	Washington, U. S. Circuit Court.
Watts & S.	Watts & Sergeant's Pennsylvania Reports.
Web. P. C.	Webster's Patent Cases, England.
Wel.	Welsh's Irish Registry Cases.
Wend.	Wendell's New York Reports.
West. Law J.	Western Law Journal, U. S.
Wheat,	Wheaton, U. S. Supreme Court.
Whit.	Whitman's Patent Cases, U. S.
Wood. & M.	Woodbury & Minot, U. S. Circuit Court.
Woods	Woods, U. S. Circuit Court.

NAMES OF JUSTICES

WHOSE DECISIONS ARE REPORTED IN THIS VOLUME.

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_____	Tilghman v. Proctor, p. 41.
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_____	Egbert v. Lippmann, p. 278.
_____	Worley v. Loker Tobacco Co., p. 294.
_____	Vinton v. Hamilton, p. 400.
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_____	Stow v. Chicago, p. 451.
_____	Bantz v. Frantz, p. 550.

NAMES OF COUNSEL

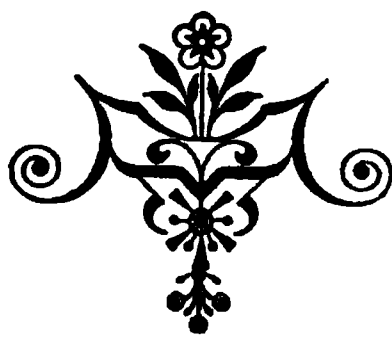
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NAMES OF COUNSEL.

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- Mr. James G. Field, Attorney-General, of Virginia, for Appellee. *Webber v. Virginia*, p. 104.
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- Mr. Milton A. Wheaton, for Defendant. *Heald v. Rice*, p. 472.
- Mr. Geo. H. Williams, for Appellee. *James v. Campbell*, p. 352.



DECISIONS
OF
THE SUPREME COURT
OF
THE UNITED STATES.
IN
PATENT CASES.

SWAIN TURBINE AND MANUFACTURING COMPANY, APPELLANT, v. JAMES E. LADD.*

102 (12 Otto) U. S. 408-415. Oct. Term, 1880.

[Bk. 26, L. ed. 184 ; 19 O. G. 62.]

Affirming *Ibid*, 2 Ban. & Ard. 488.

Argued October 26, 27, 1880. Decided December 13, 1880.

*Particular patent construed. Enlarged reissue. Object of reissue.
Invention. Change in use.*

1. Where original letters patent, No. 28,314, A. M. Swain, May 15, 1860, Turbine Wheel, described but did not claim a wheel of particular construction and form, and its reissue, No. 5,154, November 19, 1872, sought by a sweeping generalization

*See Explanation of Notes, page III.

Syllabus.

to monopolize by its claims all wheels having a certain flow and discharge, irrespective of the shape of certain parts, *held* that the reissue claims were properly construed and restricted in accordance with the limitations in the original patent, in order to avoid the conclusion that it was for a different invention. *Held* that if broadly construed, the wheel was for a mere change of use of a prior invention, by placing it in a different position with regard to the water, which was not patentable. (p. 19.)

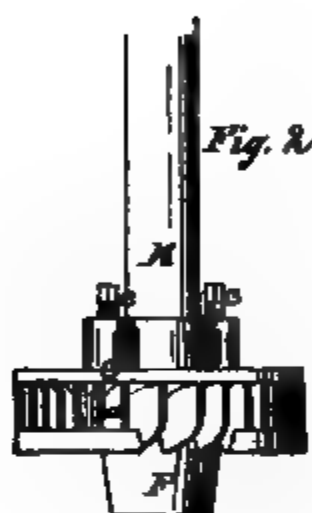
2. The law authorizing reissues of patents was never intended to allow the scope of a patent to be enlarged so as to include and embrace within it matters and things that were not embraced in the original invention. (p. 21.)
3. Claims improperly made, or which had been made too broad, may be restricted, and mistakes inadvertently made,—not errors of judgment—may be corrected. (p. 21.)
4. A reissue can only be granted for the same invention which was originally patented. To show that the patentee, before obtaining his original patent, had made and done all those things which it is proposed to embrace in or cover by the reissued patent is nothing to the purpose. (p. 23.)
5. Any extension of a reissued patent beyond the scope of the invention set forth and fairly indicated in the original specification, drawings, and model would be fatal to the patent itself. (p. 24.)
6. *Held* that it was not a patentable invention to merely change the use of an old device, a wheel which had never been used under water as a turbine, by placing it in a different position in regard to the water. (p. 24.)

Appeal from the Circuit Court of the United States for the District of Massachusetts.

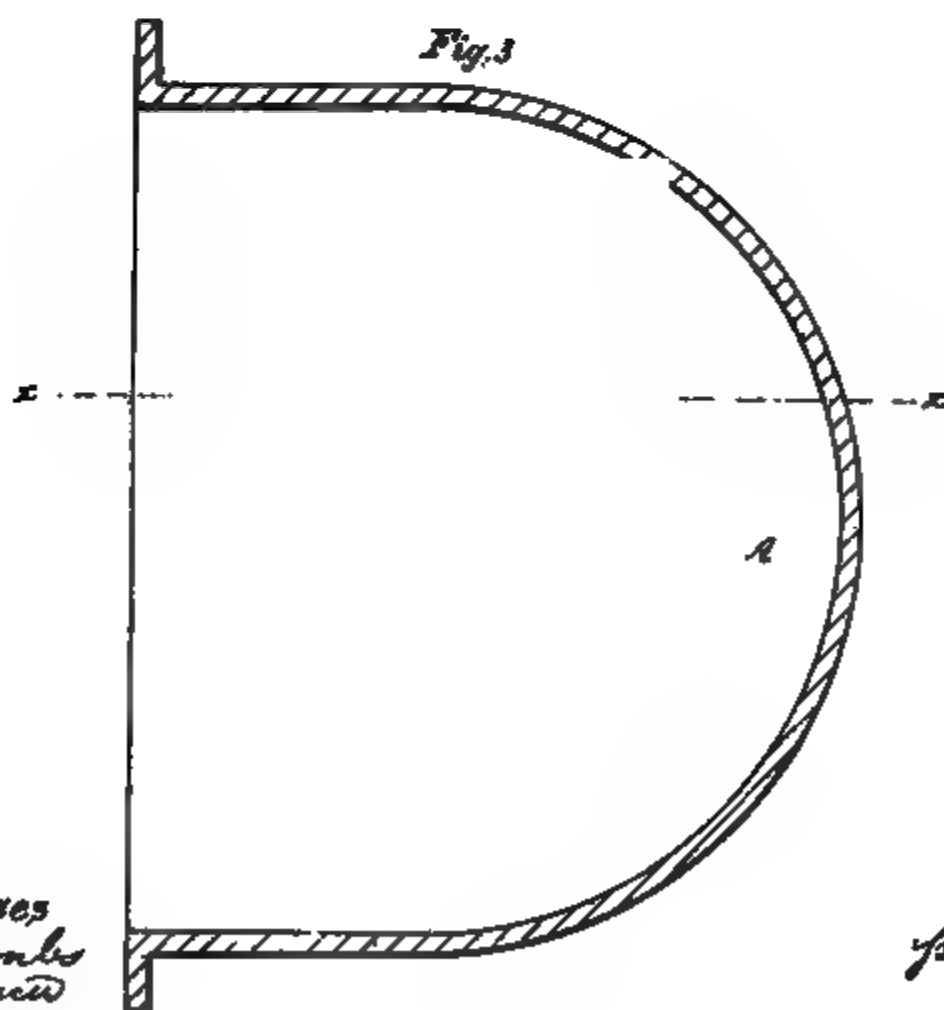
The case is fully stated by the court.

The specifications and drawings of Swain's original and reissued letters patent are as follows :

A.M. Swain,
Water Wheel,
Nº 28,314, Patented May 15, 1860.



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Witnesses
J. W. Combs
R. S. Spruce

Inventor
A. M. Swain
per Marshall
Attorney

Statement of the case.

A. M. SWAIN, OF LOWELL, MASSACHUSETTS.

Letters Patent, No. 28,314. Dated May 15, 1860.

The schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, A. M. Swain, of Lowell, in the county of Middlesex and State of Massachusetts, have invented a new and improved Water-Wheel, and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a vertical section of my invention, taken in the line $x\ x$ Fig. 3. Fig. 2, is a detached view of the wheel. Fig. 3 is a horizontal section of ditto taken in the line $y\ y$ Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to obtain a simple and efficient horizontal water-wheel, one that will have all its parts accessible for repairs, and which will give the maximum power of varying heads with an economical use of the water.

A represents a cast-iron case which encloses the wheel and the parts pertaining thereto. This case is of scroll form, as shown clearly in Fig. 3 and it is supported by standards, a , and a curb, B, which are cast with a bell-shaped base, C, as shown clearly in Fig. 1. In the top of the bell-shaped base, C, there is placed an iron block, D, which forms a step to receive a wooden block, E, that is fitted in the lower end of the hub, F, of the wheel, G. Transversely through the hub, F, and block, E, a bar, b , passes, said bar having screws, c , bearing on it, one near each end. These screws, c , pass up through the center or hub of the wheel, and, by adjusting them, the wheel may be raised or lowered, as desired, with the greatest facility, without re-

Statement of the case.

moving the wheel from its proper working position, and without being troubled by the influence or action of water. The wheel, G, has its floats, *d*, cast or constructed of a single piece of metal. The face side of the floats, *d*, where the water impinges, are of paraboloidal form, whose axes are tangent to a circle to which the guides, *e*, hereinafter described, are also tangents and also to the curve at or near the outer circumference of the wheel. The bottoms of the floats are formed by revolving the curves on their axes.

Into the top of the case, A, a curb, H, is fitted. To the bottom of this curb there is attached an annular chamber, I, which may be termed a hydrostatic-chamber. The bottom of this chamber is slotted to receive the guides, *e*, previously mentioned. These guides are plates attached to or cast with a ring or cylinder, J. Three of the guides, *e*, are enlarged to allow rods, *f*, to pass through and the upper parts of said rods have screws, *g*, formed on them, said screws passing through a flanch, *h*, at the inner side and bottom of curb, H. Each screw, *g*, has a nut, *h*, on it, said nuts being pinions into which a spur-wheel, I', gears, the wheel, I', being concentric with the shaft, K, of the wheel, and having a pinion, *a**, gearing into it, the pinion being on a shaft, *b**, which is surmounted by a hand-wheel.

The chamber, I, is made tight, with the exception of the slots for the reception of the guides, *e*, previously described; the water entering and forming a complete stuffing-box, by means of which I obtain adjustable tapering chutes formed by the bottom of the chamber, I, guides, *e*, and the top of cylinder, J. The ring or cylinder, J, encompasses the top of the lower curb, B, the lower part of the cylinder being provided with packing, *i*, which is secured to the bottom of the cylinder by a ring, *j*.

From the above description it will be seen that by turning the shaft, *b**, the wheel, G, and pinions, *h*', will be turned simultaneously, and the guides, *e*, raised or lowered as desired. These guides, *e*, in connection with the upper surfaces of I, J, as previously stated, form chutes which direct the

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water properly to the buckets, and by raising and lowering them, the volume of water admitted to the wheel may be increased or diminished at will, and the capacity of the wheel regulated as occasion may require.

These adjustable chutes also form a gate by which the water may be entirely cut off from the wheel. The floats, *d*, may occupy one-third the radius of the wheel and have a depth of three-sixths of the same; the width of space occupied by the guides, *e*, may be the same as the floats. The sum of the shortest distance between the guides may be nine-fifths the diameter of the wheel. This together with the number of the guides determines the narrowest section of each guide, and also the angle at which the water strikes the float, and also determines in a measure the paraboloidal curves of the floats.

The inner and lower edge of the chamber, *I*, and upper edge of the ring or cylinder, *J*, are turned true, so that when *J* is drawn up, it will make a complete water-tight joint, and keep all water from the wheel. When *J* is lowered, the water strikes the floats with all the force and velocity due to its head, directly under the rim of the wheel, which is so curved as to force the water down rapidly on the lower curved parts or bottoms of the floats, the water not leaving the wheel until its force has been properly expended on it. The water is discharged down between the curb and the wheel and lower curb, *H*, and is turned outward by the base, *C*.

The particular angle which the guides, *e*, have in relation to each other is the same as that which the bottom of the chamber, *I*, and the top of the cylinder, *J*, bear to each other, to wit: about $13\frac{1}{2}^{\circ}$ and not more than 15° . Whatever the size of the wheel may be no less than twenty-four guides and not more than twenty-seven are used. The number of floats used will depend on the size of the wheel, but never less than twenty-three, and not more than four inches apart for a wheel of any diameter.

The advantages possessed by this wheel over others of a

Statement of the case.

similar class are : 1st. The wheel has not that great weight of water bearing upon it to wear the step away ; 2d. The wheel may be readily raised without removing it from its proper working position ; 3d. All parts are very accessible for repairs and removable at pleasure ; 4th. It is lighter than the majority of wheels, and may be started with less water, and run up to speed with far less water than is required by scroll-wheels.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is—

First—The annular chamber, I, arranged substantially as shown, and provided with slots to receive the guides, e, when the latter are attached to the cylinder, J, for the purpose set forth.

Second—The arrangement of the guides, e, and cylinder, J, attached to curb, B, and chamber, I, forming the gate, when said parts are arranged in relation with the wheel, G, substantially as and for the purpose specified.

Third—The adjusting of the block, E, by means of the bar, b, and set-screws, c, for the purpose of adjusting the wheels to compensate for the wear of the step.

A. M. SWAIN.

Witnesses :

S. C. PRATT,
T. PEARSON,
JOHN NESMITH.

ASA M. SWAIN, OF LOWELL, MASSACHUSETTS,
ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE
SWAIN TURBINE COMPANY, OF SAME PLACE.

IMPROVEMENT IN WATER-WHEELS.

Specification forming part of Letters Patent No. 28,314, dated May 15, 1860 ; Reissue No. 5,154, dated November 19, 1872.

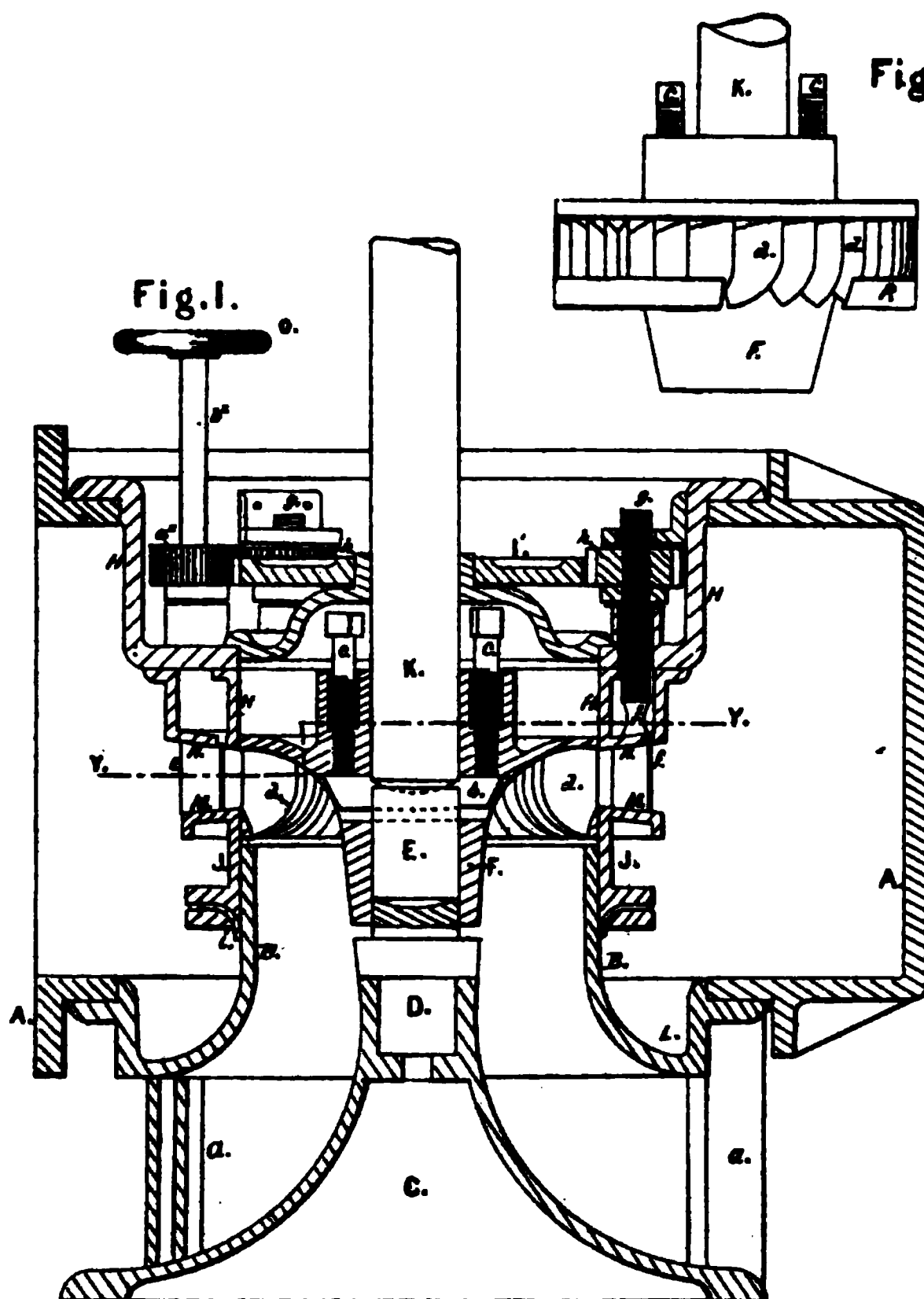
To all whom it may concern :

Be it known that Asa M. Swain, of Lowell, Massachu-

A. M. SWAIN.
Water-Wheel.

No. 5,154.

Reissued Nov. 19, 1872.



Witness
Nathaniel Hill.
[Signature]

Swain Turbine Company
Assignee of A. M. Swain
[Signature]
And Attorney

Statement of the case.

setts, has invented certain Improvements in Water-Wheels, of which the following is a specification :

This invention relates particularly to the improved construction, combination, and arrangement of the different parts of a water-wheel in such a manner as to effectively combine in one wheel the elements of an inward-flow turbine and a downward-flow turbine, together with an effective direction of the water at any opening of the gate, giving increased capacity, compactness, efficiency, and economy to the wheel.

Figure 1 is a vertical section on a line, *xx*, Fig. 3, Sheet 2, of a wheel embodying this invention. Fig. 2, Sheet 1, is a side view of the wheel with a portion of the band broken away and showing the floats ; and Fig. 3, Sheet 2, is a horizontal section on a line, *yy*, Fig. 1, Sheet 1, of a wheel embodying this invention.

A is an outer case surrounding the wheel, through which the water passes to the wheel. B is a lower curb, on the outer flange of which rests the case, A. This curb has a sediment-chamber, L. The upper portion forms a bearing and guide for the cylindrical gate, J, and its packing, *ii*. This curb is supported by the standards, *aa*, Fig. 1, Sheet 1, which rest on the outer edge of the bell-shaped base, C. In the top of the base, C, is placed an iron block, D, which forms a step to receive the wooden block, E, which is fitted in the lower end of the hub, F, of the wheel, G. Transversely through the hub, F, and block, E, a bar, *b*, passes, said bar having screws, *cc*, bearing on it—one near each end. These screws, *cc*, pass up through the hub of the wheel, and by adjusting them the wheel may be raised or lowered, as desired. The shaft, K, is attached to the hub, F, of the wheel, G. To the crown of the wheel, G, are attached the floats, *d*. P is a band which may be attached to the lower outer edges of the floats to give greater rigidity. The upper horizontal edge of the floats is attached to the crown of the wheel, and the outer lower edge may be attached to a band. The surface of the floats may be curved in a horizontal direction at their upper

Statement of the case.

portion, and have a curve of double curvature at their lower portion.

By this construction and arrangement of the crown and floats we combine an inward-flow turbine and a downward-flow turbine effectively in one wheel, which gives greater area of discharge nearer the center of the wheel, the floats having a discharge-line equal to the height of the float in the well-known Fourneyrou or Warren wheels, and that due to the width of the float in a radial direction, as in the Jouval turbine.

J is a cylindrical gate fitted around the upper portion of the curb, B, and packed against the curb at *i i* with leather or other suitable packing. M is a disk attached to the gate, J, over which the water flows to the wheel, G. N is also a disk attached to the lower edge of the upper curb, H, under which the water passes to the wheel. These disks facilitate and direct the passage of the water to the wheel. Guides, *e e*, are attached to the gate-disk, M, and pass through slots in the upper disk, N. This arrangement permits the gate to be opened and closed, while the guides at all times extend from one disk to the other. The gate, J, is closed by raising it to meet the lower edge of the curb, H, these edges being fitted to form a water-tight joint. By this arrangement the water is, at part gate as well as at full gate, conducted onto the upper portion of the floats of the wheel, when it acts with the greatest efficiency, obviating almost wholly the objections incident to other turbines at part gate.

The gate is operated by means of the screws, *f f*, attached to the gate-disk, M, and working in gear-nuts, *h h*, moved by the gear, I', engaging all the gear-nuts, and operated by the pinion, *a**, and hand-wheel, *o*. Attached to the case, A, is the curb, H, which, with the gate, J, and its packing, *i i*, prevents the water from flowing away except through the wheel.

We claim as the invention of the said Asa M. Swain the following, to wit:

1. A water-wheel, the floats of which have a discharge-

Statement of the case.

line extending from the crown at their inner edge to the lower outer edge of the wheel.

2. The combination, in a water-wheel, of a crown, band, and floats, having their discharge-line extending from the crown at their inner edge to their lower outer edge.

3. The combination, in a water-wheel, of a crown and floats having their discharge-line extending from the crown at their inner edge to the lower outer edge.

4. The combination of the screws, *c c*, bar, *b*, and block, *E*, for the purpose specified.

5. A water-wheel having an effective inward flow and discharge of part of the water and an effective downward flow and discharge of part of the water simultaneously in one wheel, whereby the effective area of discharge is increased without increasing the diameter of the wheel.

6. The gate, *J*, attached to disk, *M*, as shown and described.

7. The gate, *J*, with its disk, *M*, combined with the disk, *h*, for the purposes shown and stated.

8. The gate, *J*, with its disk, *M*, and disk, *N*, in combination with the guides, *e*, as shown and described.

9. The combination and arrangement of a gate, *J*, with reference to the wheel, *G*, and curb, *H*, for the purposes specified.

10. A water-wheel having the gate opening downward for the purposes specified.

11. The chamber, *L*, for receiving sediment, as shown and described.

SWAIN TURBINE COMPANY.
By H. W. BOARDMAN,
Agent and Attorney.

Witnesses :

JOHN B. MOTLEY,
NATHANIEL HILL.

Argument of counsel.

Messrs. John S. Abbott and H. W. Bourdman, for appellants :

Prima facie it must be presumed that the amended or reissued patent was properly and rightfully granted by the Commissioner.

Allen v. Blunt, 3 Story, 744 ; Allen v. Blunt, 2 Wood. & M. 138 ; O'Reilly v. Morse, 15 How. 112 [5 Am. & Eng. 483 ;] Hussey v. Bradley, 2 Fish. 362.

In a suit against an infringer, the proceedings before the Commissioner of Patents in the surrender and reissue of a patent are not open for consideration.

And whether any new matter was introduced into the amended specification is to be determined by the court upon examining the specification, claims, drawings, and model of the reissue and of the original patent, and comparing them together. No testimony of experts or of other persons as to their similarity or dissimilarity is admissible.

16 Stat. at Large, ch. 230, § 53, Act of July 8, 1870 ; Gear v. Grosvenor, 6 Fish. 316 ; Eureka Co. v. Bailey Co., 11 Wall. 489 [8 Am. & Eng. 280 ;] Rubber Co. v. Goodyear, 9 Wall. 796 [8 Am. & Eng. 150 ;] Johnson v. Beard, 8 O. G. 436 ; Battin v. Taggart, 17 How. 84 [6 Am. & Eng. 242 ;] Middletown Tool Co. v. Judd, 3 Fish. 141 ; Seymour v. Osborne, 11 Wall. 542 [8 Am. & Eng. 290 ;] Carew v. Elastic Fabrics Co., 5 Fish. 90 ; Black v. Thorne, 5 Fish. 550 ; Seymour v. Marsh, 6 Fish. 115 ; Murphy v. Eastman, 5 Fish. 309.

It is no objection to the validity of reissues that their claims are broader than those of the original patents.

If the defendant would claim that the reissued letters patent are invalid by reason of the violation of the provision of Act of July 8, 1870, that neither the model nor drawings shall be amended, except each by the other, he should distinctly set up this defence in his answer. This has not been done, and the objection is not open to him.

By comparison, it is evident that the drawings of the reissued patent are exactly like the drawings of the original,

Argument of counsel.

being, in fact, tracings from the original. The court will see that there is no such difference as Renwick states in his testimony.

The proofs clearly show that Mr. Swain invented a new type of turbine-wheel, embracing the elements and properties of an inward or central discharge turbine and a downward discharge turbine, and that the wheel is so constructed as to have additional advantages beside uniting the elements of those two kinds of turbine. Such wheel is shown and illustrated by the model filed in the Patent Office with the application for the original patent; and the reissue does not contain any new invention but merely corrects such errors as are within the purview of the act. The patent and the reissue should be construed liberally, so as to protect the inventor and his assigns in the enjoyment of the invention which was really made and patented by Mr. Swain.

Curtis Law of Pats. § 310 *n.* 1; *Carew v. Boston Elastic Fabrics Co.*, 5 Fish. 90; *Francis v. Millor*, 5 Fish. 153; *McCombe v. Brodie*, 5 Fish. 384; *Roots v. Hyndman*, 6 Fish. 439; *Ingells v. Mast*, 6 Fish. 415; *Jenkins v. Walker*, 5 Fish. 347; *Hamilton v. Ives*, 6 Fish. 244.

Messrs. Mitchell, Hungerford, and C. Browne, for appellee:

The reissue is not for the same invention as the original patent.

Of the four claims now alleged to be infringed, not one is found in the original patent. The advantages claimed for the wheel have nothing whatever to do with the combinations patented in the reissue.

Is it possible to hold that it was by accident or inadvertence that Swain failed to cover functions that could not be discharged in the same wheel with other functions which he sought to accomplish, and did accomplish, and covered by an appropriate claim?

The specification of the original patent affords no evidence either that Swain attempted to secure what he now claims,

Opinion of the court.

nor does it even declare or suggest that as to them he was the original inventor.

The statute limiting reissues to the same invention, has been construed by this court so as to prevent patentees from interposing barriers in the path of subsequent inventors, and arresting the progress of invention. *Burr v. Duryee*, 1 Wall. 575 [7 Am. & Eng. 224 ;] *Seymour v. Osborne*, 11 Wall. 516 [8 Am. & Eng. 290 ;] *Gill v. Wells*, 22 Wall. 1 [9 Am. & Eng. 471 ;] *The Wood Paper Patent*, 23 Wall. 599 [10 Am. & Eng. 199.]

Mr. Justice Bradley delivered the opinion of the court:

(a) The appellants in this case filed a bill against the appellee, alleging that the latter had infringed certain letters patent owned by the appellants, which had been granted to Asa M. Swain on the 15th of May, 1860, for a new and improved water-wheel, and which had been surrendered and reissued on the 19th of November, 1872. (b) The bill sought an account of profits, damages for the infringement, and a perpetual injunction against further use of the alleged invention. The defendant filed an answer denying infringement, and assailing the patent of the complainant on various grounds, such as prior discovery and invention by other persons, illegality of the new issue, etc. Proofs having been taken and the cause heard, the Circuit Court dismissed the bill, on the ground that, according to the true construction of the patent sued on, the defendant did not infringe. (c)

It was conceded that if the reissued patent should be construed literally, without restraining the generality of its claims by a reference to the original patent, the wheels made by the defendant would be an infringement; but the court, in view of the state of the art at the date of Swain's inven-

103 U. S. 409.

(a) Otto substitutes for from a to b, "The Swain Turbine Manufacturing Co. filed a bill against James E. Ladd, alleging that the latter had infringed certain letters patent owned by the company,"

(b) Otto adds, "numbered 5,154."

(c) Otto adds, "The company thereupon appealed."

Opinion of the court.

tion, and of the distinct limitation of that invention in the original patent to a wheel of specific construction and form, considered itself bound to construe the claims of the reissued patent in accordance with such limitation, in order to avoid the conclusion that it was for another and different invention from that originally patented. From a careful examination of the evidence in the case we are satisfied that this was the most favorable view that could have been taken for the complainant. A comparison of the original letters patent, including the drawings and model, with the reissued patent, makes it very evident that the latter is the result of an effort to enlarge the scope of the patent so as to include and embrace within it matters and things that were not embraced in the original invention. The original specification, drawings, and model all agree in describing a specific wheel and associated apparatus as the subject of the invention secured by the letters patent. They distinctly describe a wheel with its floats, each made of a single piece of metal, having their face sides, where the water strikes, of a paraboloidal form, with their bottoms formed by revolving the curves on their axes, and arranged in a particular direction to receive the water from the guides; and having the rim of the wheel covering the floats so curved as to force the water down rapidly in the lower curved parts or bottoms of the floats; the water being turned down between the curb and wheel and lower curb: they describe an annular chamber situated above and outside of the wheel, with slots in its bottom to receive and steady the guides when raised with the gate, and which is filled with water, forming a sort of stuffing-box: they describe a cylindrical gate, below the annular chamber surrounding the curb below the wheel, provided at the top with a flange to which the guides are attached, and which is opened by being lowered to let the water into the wheel through the guides, and is shut by being raised up to the bottom of the annular chamber: lastly, they describe a particular contrivance for adjusting the wheel on its step,

Opinion of the court.

which is of no consequence in the disposal of the present case. Substantially, this is the entire description: the wheel, formed and made as stated; the annular chamber; the cylindrical gate, with the guides attached to its flange; and the contrivance for adjusting the wheel on the step. There is also a description of the enclosing case and curbs, and the machinery for raising and lowering the gate and the wheel; but these parts have nothing to do with the controversy.

The claim of the patent was threefold: first, for the annular chamber, with slots in the bottom to receive the guides; secondly, the combined arrangement of the guides, the cylindrical gate, and the annular chamber, as unitedly related to the wheel; thirdly, the step arrangement. Here we have a clear and distinct specification of an invention, and of the particular machinery which is its subject-matter. The wheel is not claimed, either as to its form or fashion, or mode of operation; nothing is claimed but the annular chamber, the peculiar gate and guide arrangement, and the step adjustment—none of which things are in controversy in this suit.

But a change comes over the scene: the patent becomes the property of a corporation that manufactures wheels; a monopoly of the business is very desirable; other manufacturers make turbine wheels approaching somewhat in appearance to that described in Swain's patent. The usual remedy in such cases is resorted to. A reissue of the patent is sought, with expanded claims, sufficiently general and comprehensive to embrace a wide monopoly of structure, and to shut up competing establishments. In this way, the patent laws have been made the instruments of great injustice and oppression. The real object and design of a reissue of a patent have been abused and subverted. The intent of the law was to allow a correction to be made "Whenever a patent is inoperative, or invalid, by reason of a defective or insufficient description or specification, or by reason of the patentee's claiming in his specification as his

Opinion of the court.

own invention more than he has a right to claim as new ; and when the error has arisen by inadvertency, accident, or mistake, and without any fraudulent or deceptive intention." These are the words of the law granting the right. It was never intended to allow a patent to be enlarged ; but to allow the correction of mistakes inadvertently committed, and the restriction of claims which had been improperly made, or which had been made too broad : just the contrary of that which has come to be the practice. In a clear case of mistake—not error in judgment—the patent may undoubtedly be enlarged ; but that should be the exception, not the rule ; whereas the enlargement of claims has become the rule, and their contraction the exception.

These remarks are well illustrated in the case before us. We have shown what was the original invention described and claimed. After the lapse of twelve years and a half the patentee (or rather his corporation assignee) discovers that through inadvertence and mistake his specification is wrong, and needs correction ; and a reissue is obtained, with eleven different claims. These claims are quite different from those of the original patent and are intended to give to the present proprietors a large and valuable monopoly. Here are some of the claims :

1. A water-wheel, the floats of which have a discharge line extending from the crown at their inner edge, to the lower outer edge of the wheel.

2. The combination in a water-wheel of a crown, band, and floats, having their discharge line extending from the crown at their inner edge to their lower outer edge.

3. The combination in a water-wheel of a crown and floats having their discharge line extending from the crown at their inner edge to the lower outer edge.

5. A water-wheel having an effective inward flow and discharge of part of the water, and an effective downward flow and discharge of part of the water simultaneously in

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one wheel, whereby the effective area of discharge is increased without increasing the diameter of the wheel.

Here is a sweeping generalization, which, taken literally, would give to the patentee a monopoly of all water-wheels having, simultaneously, an effective inward and downward flow and discharge, whatever might be the shape of the floats, or of the crown. This was certainly not the invention described or suggested in the original patent. The invention of a wheel was not claimed at all: a wheel was described, but it was a wheel made after a particular pattern or form, and adjusted to a particular apparatus for the reception and discharge of the water. Its buckets were described as paraboloidal; its rim over the buckets curved downward and inward so as to force the water down rapidly in the lower curved parts or bottoms of the floats. No intimation is given that a wheel of a different form would answer the purposes of the invention. The defendant does not copy either of these features, in his wheel. Their floats are not paraboloidal, but waving; the rim is not curved downward and inward, but is horizontal. It is very apparent why the claim has been generalized as it has been. The patentees desire to secure the monopoly of every center-vent wheel, of whatever shape or form, which discharges the water both inwardly in the center of the wheel and downwardly from the bottoms of the floats beneath the wheel. But that would be a new invention, very different from what was described and claimed in the original patent. To warrant this extension of the claim the specification of the reissued patent contains material variations from that of the original, frequently stating that a particular part *may* be constructed thus and so, when the original *required* it to be thus and so; it speaks of "the upper horizontal edge of the floats," when no such thing is mentioned in the original, but on the contrary the rim over the floats was described as curving inward and downward and as being so curved for a special purpose and effect. Instead

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of correcting inadvertent mistakes in the specification, which rendered the patent inoperative and void, the pretended corrections are evidently intended to widen the scope of the patent, and to make it embrace more than it did at first. So far as description went, the original specification was as perfect as the new one.

The mistake of the patentee, (or his assigns,) seems to have been in supposing that he was entitled to have inserted in a reissued patent all that he might have applied for and had inserted in his original patent. The appellants produced on the argument exhibits, tending to show that the patentee before obtaining his original patent had made and done all those things which are embraced in or covered by the reissued patent. If this were true, it would be nothing to the purpose. A reissue can only be granted for the same invention which was originally patented. If it were otherwise, a door would be opened to the admission of the greatest frauds. Claims and pretensions shown to be unfounded at the time, might after the lapse of a few years, after a change of officers in the Patent Office, the death of witnesses, and the dispersion of documents, be set up anew and a reversal of the first decision obtained, without an appeal and without any knowledge of the previous investigations on the subject. New light breaking in upon the patentee as the progress of improvement goes on, and as other inventors enter the field, and his monopoly becomes less and less necessary to the public, might easily generate in his mind an idea that his invention was really more broad and comprehensive than had been set forth in the specification of his patent. It is easy to see how such new light would naturally be reflected, in a reissue of the patent, and how unjust it might be to third parties who had kept pace with the march of improvement. Hence there is no safe or just rule but that which confines a reissued patent to the same invention which was described or indicated in the original.

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Since, therefore, any extension of the reissued patent beyond the scope of the invention set forth and fairly indicated in the original specification, drawings, and model, would be fatal to the patent itself; we think that the appellant ought to be satisfied with the course taken by the Circuit Judge in so construing the patent with reference to those original tests as to restrain and confine the intent and meaning of the claims within legitimate and admissible bounds. And so construed, there is no plausible pretense that the defendant is guilty of an infringement.

If the appellant insists on the broad construction of the claims in the new patent, it must take the risk of being met with previous achievements in the same line of improvement, which may very seriously endanger the validity of its patent. Several structures have been produced on the hearing antedating the invention of Swain, (*d*) of which it will be very difficult to contend (*e*) that they do not embrace the principal feature in Swain's wheel, sought to be appropriated by him.

If the evidence with regard to Stowe's wheels, constructed in 1837, 1841, and 1850, is to be relied on, it is not a sufficient answer to say that they were merely spout-wheels, and were never used under water as turbines. They are substantially the same wheel as Swain's, and whether used as turbines, or only under the operation of a spout, they anticipate his structure. The mere change of use by placing them in a different position with regard to the water is not patentable.

The Temple wheel, the Whitney wheel, and the Greenleaf wheel all conduct the water in the same lines that Swain's does from its entrance into the wheel to its final departure from it; and if, on an investigation of dates, we should find that either of these wheels antedated Swain's invention, we should probably be forced to the conclusion

103 U. S. 414.

(*d*) Otto substitutes for from *d* to *e* "and it would be very difficult to maintain."

Notes and citations.

that they each contained the fundamental element of a simultaneous inward and downward flow and discharge of water through the wheel, which the appellant claims as the principle of Swain's invention.

We do not deem it necessary to go into a more particular examination of the evidence at this time. We have examined it carefully, and have come to the conclusion that the view taken of the case by the Circuit Court was as favorable to the appellant as it could reasonably ask.

The decree is affirmed.

103 U. S. 414-415.

Notes:

1. Reissue limited in order to be sustained:

James v. Campbell, 104 U. S. 356 [p. 341 *post.*]

Gosling v. Roberts, 106 U. S. 39.

Cochrane v. Anilin, etc., 111 U. S. 293.

Brown v. Davis, 116 U. S. 237. See also

Wing v. Anthony, 106 U. S. 142.

Hoffheins v. Russell, 107 U. S. 132.

Gardner v. Herz, 118 U. S. 180.

Crawford v. Heysinger, 123 U. S. 589.

Matthews v. Iron Clad Mnfg. Co., 124 U. S. 347.

3. Accident, inadvertence, or mistake:

Miller v. Brass Co., 104 U. S. 350 [p. 303 *post.*]

McMurray v. Mallory, 111 U. S. 97.

Wollensak v. Reiher, 115 U. S. 96.

Newton v. Furst & Bradley, 119 U. S. 373.

Notes and citations.

Of solicitors:

Hartshorn v. Barrel Co., 119 U. S. 664.

Ives v. Sargent, 119 U. S. 652.

Of Patent Office:

Grant v. Raymond, 6 Pet. 218 [4 Am. & Eng. 245.]

Patent in suit:

No. 28,314. Swain, A. M. May 15, 1860. Reissue No.
5,154, November 19, 1872. Turbine-Wheel.

OTHER SUITS ON SAME PATENT:

Swain Turbine Mnfg. Co. v. Ladd, 1877. 2 Ban. & Ard. 488; 11
O. G. 153.

Cited:

IN SUPREME COURT IN:

Hopkins & Dickinson Mnfg. Co. v. Corbin, 1881. 103 U. S. 786;
Bk. 26 L. ed. 610.

Yale Lock Co. v. James, 1888. 125 U. S. 447.

Notes and citations.

IN CIRCUIT COURTS IN :

- Washburn & Moen Mnfg. Co. v. Haish, December, 1880. 10 Biss. 65; 19 O. G. 173; 4 Fed. Rep. 904.
- Washburn & Moen Mnfg. Co. v. Haish, February, 1881. 10 Biss. 83; 7 Fed. Rep. 906.
- McMurray v. Mallory, February, 1881. 4 Hughes, 265; 5 Fed. Rep. 593.
- Meyer v. Maxheimer, October, 1881. 20 Blatch. 15; 9 Fed. Rep. 99; 20 O. G. 1162; 12 Reporter, 519.
- Kells v. McKenzie, November, 1881. 9 Fed. Rep. 284; 20 O. G. 1663.
- Brainard v. Cramme, June, 1882. 20 Blatch. 530; 12 Fed. Rep. 621; 22 O. G. 769.
- Poage v. McGowan, March, 1883. 15 Fed. Rep. 398.
- Andrews v. Hovey, May, 1883. 5 McCrary, 181; 16 Fed. Rep. 387; 26 O. G. 1011.
- Yale Lock Mnfg. Co. v. James, July, 1884. 22 Blatch. 294; 20 Fed. Rep. 903; 28 O. G. 917.
- Hammond v. Franklin, January, 1885. 23 Blatch. 77; 22 Fed. Rep. 833; 30 O. G. 1324.
- Electric Gas-Lighting Co. v. Smith & Rhodes Electric Co., March, 1885. 23 Fed. Rep. 195; 31 O. G. 792.
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IN DECISIONS OF COMMISSIONER OF PATENTS IN:

- Ex parte* Hatchman, November, 1883. 25 O. G. 979.
- Ex parte* Mahnken, September, 1887. 41 O. G. 1269.
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[illegible]

Syllabus.

RICHARD A. TILGHMAN, APPELLANT, v. WILLIAM PROCTOR ET AL.*

102 (12 Otto) U. S. 707-785. Oct. Term, 1880.

[Bk. 26, L. ed. 279; 19 O. G. 859.]

Overruling *Mitchell v. Tilghman*, 19 Wall. 287 [9 Am. & Eng. 174.]

Argued November 11, 12, 1880. Decided January 24, 1881.

Particular patent construed. Infringement. Process. Novelty. Product accidentally formed. A process is an art. Principle—patentability. Improver and matter improved on. Antedating patent.

1. Letters patent, No. 11,766, R. A. Tilghman, October 3, 1854, Purifying Fat Bodies, reviewed and construed to be for a process, and not merely for the particular mode of applying and using the process pointed out in the specification. The decision in *Mitchell v. Tilghman*, 19 Wall. 287 [9 Am. & Eng. 174,] overruled. *Held* not anticipated by a product made accidentally by a process not fully understood; *held* infringed by an improvement embodying the original process, and in which a different degree of heat was used, the precise degree of heat not being of the essence of the patent. (p. 42.)
2. The accidental formation of a product by a process never fully understood, from which no hint was derived by those engaged in the art of making the product as to a practical process for its manufacture, *held* not an anticipation of a patented process for making such product. (p. 45.)
- †3. A patent for a process, irrespective of the particular mode or form of apparatus for carrying it into effect, is admissible under the patent laws of the United States. (p. 57.)
4. A manufacturing process is clearly an art, within the meaning of the law. (p. 57.)

*See Explanation of Notes, page III.

†Head notes by Mr. Justice BRADLEY.

Syllabus.

5. Decisions on the subject of patents for processes reviewed and considered. (p. 57.)
- † 6. The decisions in *O'Reilly v. Morse*, 15 How. 62 [5 Am. & Eng. 483,] and in the case of Neilson's patent for the hot-blast (Webster's Report,) commented upon and explained. (p. 58.)
7. Distinction between a mere principle, as the subject of a patent, and a process by which a principle is applied to effect a useful result. (p. 59.)
8. A process is a "means" by which a useful result may be produced in an art, and entitles the discoverer to a patent for it. It is an act or a mode of acting. (p. 64.)
- † 9. To sustain a patent for a process the patentee should be the first and original inventor of the process, should claim it in his patent, and, if the means of carrying it out are not obvious to an ordinary mechanic skilled in the art, his specification should describe some mode of carrying it out which will produce a useful result. (p. 65.)
- † 10. If a subsequent inventor discover a new mode of carrying out a patented process, though he may have a patent for such new mode, he will not be entitled to use the process without the consent of the patentee thereof. (p. 67.)
11. The introduction of an improvement gives no title to use the primary invention improved upon. (p. 69.)
12. Tilghman's patent *held* properly antedated under the law in force at the time of its grant, (Act 1839, sec. 6.) (p. 72.)

[Citations in the opinion of the court:]

Mitchell v. Tilghman, 19 Wall. 287 [9 Am. & Eng. 174.] p. 41.

Neilson v. Thompson, Web. Pat. Cas. 275 [3 Am. & Eng. 151.] p. 60.

Househill v. Neilson, Web. Pat. Cas. 673. p. 61.

O'Reilly v. Morse, 15 How. 62 [5 Am. & Eng. 483.] pp. 61, 62, 64.

Appeal from the Circuit Court of the United States for the Southern District of Ohio.

The bill in this case was filed in the court below by the appellant, to obtain an injunction and other relief against the alleged infringement of a certain patent. A decree was entered against the complainant; whereupon he appealed to this court.

Statement of the case.

The case is fully stated in the opinion of the court.

The following are the specification and drawings of Tilghman's letters patent:

RICHARD A. TILGHMAN, OF PHILADELPHIA,
PENNSYLVANIA.

Letters Patent, No. 11,766, dated October 3d, 1854.

Patented in England, January 9th, 1854.

The schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, Richard Albert Tilghman, of Philadelphia, have invented a new and improved mode of treating fatty and oily bodies, and I hereby declare that the following is a full and exact description thereof :

My invention consists of a process for producing free fat acids and solution of glycerine from those fatty or oily bodies of animal and vegetable origin, which contain glycerine as their base.

For this purpose I subject these fatty or oily bodies to the action of water at a high temperature and pressure, so as to cause the elements of those bodies to combine with water, and thereby obtain at the same time free fat acids and solution of glycerine.

I mix the fatty body to be operated upon with from a third to a half of its bulk of water, and the mixture may be placed in any convenient vessel in which it can be heated to the melting point of lead, until the operation is complete. The vessel must be closed and of great strength, so that the requisite amount of pressure may be applied, to prevent the conversion of the water into steam.

The process may be performed more rapidly and also con-

Statement of the case.

tinuously, by causing the mixture of fatty matter and water to pass through a tube or continuous channel, heated to the temperature already mentioned; the requisite pressure for preventing the conversion of the water into steam being applied during the process; and this I believe is the best mode of carrying my invention into effect.

In the drawing hereunto annexed are shown figures of an apparatus for performing this process speedily and continuously, but which apparatus I do not intend to claim as any part of my invention. Figure 1 of the said drawing is a vertical section of this apparatus, and Fig. 2 shows the various parts of the apparatus in horizontal section, similar parts in these figures being marked with similar letters of reference.

I place the fat or oil in a fluid state in the vessel, *a*, with from one-third to one-half its bulk of warm water; the disk or piston, *b*, perforated with numerous small holes, being kept in rapid motion up and down in the vessel, *a*, causes the fat or oil and water to form an emulsion or intimate mechanical mixture. A force pump, *c*, like those in common use for hydraulic presses, then drives the mixture through a long coil of very strong iron tube, *d d d d*, which being placed in the furnace, *e e*, is heated by a fire, *f*, to about the temperature of melting lead.

From the exit end, *g*, of the heating tubes, *d d*, the mixture, which has then become converted into free fat acids and solution of glycerine, passes on through another coiled iron tube, *h h h*, immersed in water, by which it is cooled down from its high temperature to below 212° F., after which it makes its escape through the exit valve, *i*, into the receiving vessel.

The iron tubes I have employed and found to be convenient for this purpose, are about one inch external diameter and about half an inch internal diameter, being such as are in common use for Perkins' hot water apparatus. The ends of the tubes are joined together by welding to make the requisite length, but where welding is not practicable,

R. A. TILGHMAN.

Purifying Fat.

No. 11,766.

Patented Oct. 3, 1854.

Fig 1.

Fig 2

per R. A. Tilghman

Statement of the case.

I employ the kind of joints used for Perkins' hot water apparatus, which are now well known. The heating tube, *d d d*, is coiled several times backwards and forwards, so as to arrange a considerable length of tube in a moderate space. The different coils of the tube are kept about a quarter of an inch apart from each other, and the interval between them is filled up solid with cast iron, which also covers the outer coils or rows of tubes to the thickness of half or three-quarters of an inch, as shown in Fig. 2. This casing of metal insures a considerable uniformity of temperature in the different parts of the coil, adding also to its strength and protecting it from injury by the fire.

The exit valve, *i*, is so loaded that when the heating tubes, *d d d*, are at the desired working temperature, and the pump, *c*, is not in action, it will not be opened by the internal pressure produced by the application of heat to the mixture; and therefore when the pump, *c*, is not in action, nothing escapes from the valves, *i*, if the temperature be not too high. But when the pump forces fresh mixture into one end, *j*, of the heating tubes, *d d d*, the exit valve, *i*, is thereby forced open to allow an equal amount of the mixture, which has been operated upon to escape out of the cooling tubes, *h h*, at the other end of the apparatus.

No steam or air should be allowed to accumulate in the tubes, which should be kept entirely full of the mixture. For this purpose whenever it may be required, the speed of the pump should be increased so that the current through the tubes may be made sufficiently rapid to carry out with it any air remaining in them.

Although the decomposition of the neutral fats by water, takes place with great quickness at the proper heat, yet I prefer that the pump, *c*, should be worked at such a rate in proportion to the length or capacity of the heating tubes, *d d d*, that the mixture while flowing through them should be maintained at the desired temperature for ten minutes, before it passes into the refrigerator or cooling parts, *h h*, of the apparatus.

Statement of the case.

The melting point of lead has been mentioned as the proper heat to be used in this operation because it has been found to give good results. But the change of fatty matters into fat acid and glycerine takes place with some materials (such as palm oil) at or below the melting point of bismuth, yet the heat has been carried considerably above the melting point of lead without any apparent injury, and the decomposing action of the water becomes more powerful as the heat is increased. By starting the apparatus at a low heat, and gradually increasing it, the temperature-giving products most suitable to the intended application of the fatty body employed can easily be determined.

To indicate the temperature of the tubes, *d d d*, I have found the successive melting of metals and other substances of different degrees of fusibility, to be convenient in practice; several holes half an inch in diameter and two or three inches deep, are bored into the solid parts of the casting surrounding the tubes, each hole being charged with a different substance. The series I have used consists of tin melting about 440° F., bismuth at about 510° F., lead at about 612° F., and nitrate of potash at about 660° F. A straight piece of iron wire passing through the side of the furnace to the bottom of each of the holes, enables the workman to feel which of the substances are melted, and to regulate the fire accordingly.

It is important for the quickness and perfection of the decomposition, that the oil and water during the entire passage through the heating tubes, should remain in the same state of intimate mixture in which they enter them. I therefore prefer to place the series of heating tubes in a vertical position, so that any partial separation which may take place while the liquids pass up one tube, may be counteracted as they pass down the next. I believe that it will be found useful to fix at intervals in the heating tubes, diaphragms pierced with numerous small holes, so that the liquids being forced through these obstructions with great velocity, may be thoroughly mixed together. I deem it

Statement of the case.

prudent to test the strength of the apparatus by a pressure of ten thousand pounds to the square inch before taking it into use ; but I believe that the working pressure necessary in using the heat I have mentioned, will not be found to exceed two thousand pounds to the square inch. When it is desired to diminish the contact of the liquids with iron, the tubes or channels of the apparatus may be lined with copper.

The hot mixture of fat acids and solution of glycerine, which escapes from the exit valve of the apparatus, separates by subsidence. The fat acids may then be washed with water, and the solution of glycerine concentrated and purified by the usual means.

The fat acids thus produced may like those obtained by other methods, be used in the manufacture of candles and soap and applied to various purposes according to their quality ; and when desired they may also be first bleached by chemical agents, or purified by distillation in a current of steam, or in a vacuum as is now well understood.

I prefer that the fatty bodies should be previously deprived as far as practicable, of such impurities as would cause the discoloration of the fat acids produced ; but when the fat acids are to be finally purified by distillation, this preliminary purification is of less importance.

When sulphuric acid, nitrous fumes, or other corrosive agent shall have been used for purifying, hardening, or otherwise preparing the fatty body to be operated upon, I take care that all traces of it shall be washed out or neutralized before passing it through the apparatus. Some fatty bodies (particularly when impure) generate during the process a portion of acetic or other soluble acid, which might tend to injure the iron tubes ; in such cases I add a corresponding quantity of alkaline or basic matter to the water and oil before they are pumped into the tubes.

Having now described the nature of my said invention and the manner of performing the same, I hereby declare that I claim as of my invention the manufacturing of fat

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acids and glycerine from fatty bodies by the action of water at a high temperature and pressure.

R. A. TILGHMAN.

Witnesses :

JAS. McCURLEY,

JOHN R. DARKER,

Consulate of the United States, London.

Mr. George Harding, for appellant :

Appellant was the discoverer of the chemical fact that fatty or oily substances would be decomposed, and the fat acids and glycerine separated by the action of water at a high temperature and under pressure; and he was the first to describe a process by which his said discovery could be utilized in the arts, viz :

The heating of fatty matter and water in proper proportions, in a closed vessel, of sufficient strength to prevent the evaporation of the superheated water.

Having thus described the mechanical means of carrying into effect his discovery, he is entitled to protection, whatever be the form of the closed receptacle or the means of heating it.

O'Reilly v. Morse, 15 How. 62 [5 Am. & Eng. 483 ;] Neilson v. Harford, 1 Web. Pat. Cas. 295 [3 Am. & Eng. 190 ;] Corning v. Burden, 15 How. 267 [6 Am. & Eng. 69.]

Appellant's patent is for a process, and is patentable; it is not for a mere philosophical principle, unapplied to practical use.

Same cases.

The mention of the use of a "convenient vessel," in appellant's patent, is sufficient without a further description or reference to known existing apparatus.

Househill Co. v. Neilson, 1 Web. Pat. Cas. 687; Emerson v. Hogg, 2 Blatchf. 9; Brooks v. Jenkins, 3 McLean, 447; Kneass v. Schuylkill Bk., 4 Wash. (C. C.) 13; see Patent Rec., p. 8.

Appellees infringe by the use of highly heated water un-

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der pressure, to decompose fat into fat acids and glycerine. Appellant's patent is not limited to specific degrees of temperature.

Mowry v. Whitney, 14 Wall. 636 [9 Am. & Eng. 1 ;] Good-year v. Wait, 3 Fish. 248 ; Wood Paper Co. v. Glens Falls Co., 4 Fish. 324.

Appellees infringe none the less because they insert a small per cent. of lime in their digesters. Two processes then go on independently of each other, *i. e.*, the old lime saponification process producing lime and soap, and the infringing process, producing free fat acids and glycerine by the use of superheated water alone.

The mere suggestions of actual and possible modes of operation in prior books or patents, is not sufficient to invalidate a patent for a process reduced to practice and adequately described.

Curt. Pat., sec. 378 ; Betts v. Menzies, 7 Law Times (N. S.) 110 ; Househill Co. v. Neilson, 1 Web. Pat. Cas., 690.

Appellant's patent is not void for want of practical utility, nor because lower temperatures than those pointed out in the appellant's patent are generally used, nor because there may be inconvenience in working his process at the *maximum* temperature mentioned by him. Mowry v. Whitney, 14 Wall. 646 [9 Am. & Eng. 1.]

The extension is valid on its face. Its validity cannot be impeached in this suit.

Messrs. Chas. B. Collyer and Matt H. Carpenter, for appellees :

The defendants do not infringe the patent of the complainant :

First. Because the high temperature and pressure described and employed in the patent is not employed by the defendants, and could not possibly be realized in the form and character of apparatus used by them.

Second. The complainant, to prove infringement, must show, not only that the temperature and apparatus, as em-

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ployed by defendants, are within the compass of his patent; but, that the defendants do in fact decompose fats into fat acids and glycerine, by the sole agency of water in its liquid form.

Tilghman's alleged invention was not new and his patent is, consequently, void.

Tilghman claims a process whereby fat is decomposed by water; he says the vessel must be so closed, etc., as to "prevent the conversion of the water into steam."

His process may, therefore, be briefly termed a "water process."

Whenever the water becomes a mere auxiliary to other forces, as in defendant's process, although it may be essential to their action, the process is not Tilghman's.

In Gay Lussac and Chevreul's patent, water, in a liquid state, at a pressure of several atmospheres, is an essential agent of the decomposition and solution of glycerine, one of the products. Why is not this patent then a distinct anticipation of Tilghman's? Because the water, although essential, is nevertheless merely auxiliary to the other forces, and acts a subordinate part.

And for the same reason the defendants' process does not infringe complainant's process, although water is present as an essential agent.

The defendants having acquired from the patentee the right to use his patented invention during the original term of the patent, are not liable to him under the extension.

The Act of 1836, section 18, providing for renewals of patents, also provides:

"And the benefit of such renewal shall extend to assignees and grantees of the right to use the thing patented to the extent of their respective interests therein."

This saving clause of the statute has been considered repeatedly by the Supreme Court, and its meaning definitely determined. The case of most recent date, in which it has been passed upon in that court, is that of *Bloomer v. Miß*

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linger, 1 Wall. 340 [7 Am. & Eng. 185,] and in this case the prior decisions are referred to.

In the case of *Day v. Rubber Co.*, 3 Blatchf. 488, the rights of those who have acquired licenses under the original term of the patent to continue under the extended term, without liability to the patentee, when a process is the subject-matter of the patent, is fully established. Referring to all the reported decisions on the question, *Wilson v. Turner*, 7 Law Rep. 527; *Wilson v. Rousseau*, 4 How. 646 [4 Am. & Eng. 436;] *Wilson v. Simpson*, 9 How., 109 [5 Am. & Eng. 97;] and *Bloomer v. McQuewan*, 14 How. 539 [5 Am. & Eng. 434.]

Mr. Justice BRADLEY delivered the opinion of the court:

This case involves a consideration of the same patent which was the subject of litigation in the case of *Mitchell v. Tilghman*, reported in 19th Wallace, 287 [9 Am. & Eng. 174.] The evidence in the present case, which is quite an unwieldy mass, is much the same as in that, being supplemented, however, by the testimony of the patentee respecting the nature of his original experiments and the practicability of using profitably the coil apparatus described in the patent, together with certain exhibits relating to the novelty of the alleged invention. Upon the renewed consideration which has been given to the subject, the court is unanimously of opinion, contrary to the decision in the *Mitchell* case, that the patent of *Tilghman* must be sustained as a patent for a process, and not merely for the particular mode of applying and using the process pointed out in the specification, and that the defendants have infringed it by the processes used by them.

The patent in question relates to the treatment of fats and oils, and is for a process of separating their component parts so as to render them better adapted to the uses of the arts. It was discovered by *Chevreul*, an eminent French chemist, as early as 1813, that ordinary fat, tallow, and oil are regu-

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lar chemical compounds, consisting of a base which has been termed glycerine, and of different acids, termed generally fat acids, but specifically, stearic, margaric and oleic acids. These acids, in combination severally with glycerine, form stearine, margarine, and oleine. They are found in different proportions in the various neutral fats and oils; stearine predominating in some, margarine in others, and oleine in others. When separated from their base (glycerine,) they take up an equivalent of water, and are called free fat acids. In this state they are in a condition for being utilized in the arts. The stearic and margaric acids form a whitish, semi-transparent, hard substance, resembling spermaceti, which is manufactured into candles. They are separated from the oleic acid, which is a thin oily fluid, by hydrostatic or other powerful pressure; the oleine being used for manufacturing soap, and other purposes. The base, glycerine, when purified, has come to be quite a desirable article for many uses.

The complainant's patent is dated the 3d day of October, 1854, and relates back to the 9th day of January of that year, being the date of an English patent granted to the patentee for the same invention. It has but a single claim, the words of which are as follows: "Having now described the nature of my said invention, and the manner of performing the same, I hereby declare that I claim, as of my invention, the manufacturing of fat acids and glycerine from fatty bodies by the action of water at a high temperature and pressure."

In the case of *Mitchell*, the majority of the court was of opinion that in the application of the process thus claimed the patentee was confined to the method of using the process particularly pointed out in the specification; and as, by that, it was proposed to produce a very rapid separation of the fatty elements by the use of a high degree of heat, the operation being effected in the space of ten minutes by forcing the fat, mixed with water, through a long coil of

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strong iron tube passing through an oven or furnace where it was subjected to a temperature equal to that of melting lead, or 612° Fahrenheit, it was concluded by the court that the producing of the same result in a boiler subjected to only 400° Fahrenheit, and requiring a period of several hours to effect the desired separation, was not an infringement of the patent, although the process by which the effect was produced, namely the action of water, in intimate mixture with the fat, at a high temperature and under a sufficient pressure to prevent the formation of steam, was undoubtedly the same. On further reflection, we are of opinion that, in the case referred to, sufficient consideration was not given to the fact that the patent is for a process, and not for any specific mechanism for carrying such process into effect.

In order to have a clearer understanding of the question, it is necessary to advert briefly to the history of the art, and then to examine the terms of the patent in greater detail.

It is conceded by the complainant that two different processes for effecting a decomposition of fats into their component elements had been in practical operation prior to his invention. These processes were called respectively the alkaline saponification process, and the sulphuric acid distillation process. The first consisted of the manufacture of the fat into soap by the use of lime or other alkali; and then, of the decomposition of the soap, so produced, into the fat acids by the aid of hydrochloric or dilute sulphuric acid. The decomposition of the soap was, by a subsequent improvement, effected by distillation in an atmosphere of steam. The other process, called the sulphuric acid distillation process, consisted of the direct saponification of fat by means of concentrated sulphuric acid, and the subsequent distillation over of the resulting fatty acids. By this process, however, the glycerine was destroyed.

The first of these processes was patented by Gay Lussac & Chevreul in 1825, but was not brought into successful

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operation in the manufacture of stearic candles until improved by De Milly in 1831. The second process was proposed and developed between 1840 and 1850. It was extensively used during and after that period by the large manufacturing firm of E. Price & Co., of London, and their successors, Price's Patent Candle Company. Mr. G. F. Wilson, one of the shareholders in that establishment, and apparently a man of accurate knowledge on this subject, read various papers illustrative of the history of the manufacture before learned societies in England, extracts from which are contained in the record, and throw considerable light on the matter. It appears from his statements that the distillation of the saponified fat, whether saponified by an alkali or by sulphuric acid, was often accompanied by prejudicial effects from the access of atmospheric air to the contents of the still. To remedy this, he and his associates adopted and patented the introduction of superheated steam into the still or vat containing the fat acids, which excluded atmospheric air, and carried over the fatty vapors into the receiver in a more perfect condition than they had before been able to obtain them. These patents were taken out in 1843. In the following year, the same parties, Gwynne and Wilson, found, what Dubrunfaut had found two or three years before, that palm-oil, which is very fusible and manageable, can be distilled in its crude state, in the manner last described, that is by the introduction of steam into the still, without the intervention of saponification; and the distilled product being then steam boiled in water, acidulated with sulphuric acid, and the water allowed to settle and separate, the resulting substance would be a fat acid. It is not shown that this process was ever carried into successful operation prior to Tilghman's patent; and judging from what was done by the Price Patent Candle Company in the way of improvement immediately after becoming acquainted with Tilghman's process, it is to be inferred that the steam distillation process, (without

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saponification,) was still an unsuccessful experiment when his patent was issued. This experiment, however, must be regarded as the nearest approach to the process of Tilghman of anything done in the art prior to it.

We do not regard the accidental formation of fat acid in Perkins's steam cylinder from the tallow introduced to lubricate the piston, (if the scum which rose on the water issuing from the ejection pipe was fat acid,) as of any consequence in this inquiry. What the process was by which it was generated or formed was never fully understood. Those engaged in the art of making candles, or in any other art in which fat acids are desirable, certainly never derived the least hint from this accidental phenomenon in regard to any practicable process for manufacturing such acids.

The accidental effects produced in Daniell's water barometer and in Walther's process for purifying fats and oils preparatory to soap making, are of the same character. They revealed no process for the manufacture of fat acids. If the acids were accidentally and unwittingly produced, whilst the operators were in pursuit of other and different results, without exciting attention and without its even being known what was done or how it had been done, it would be absurd to say that this was an anticipation of Tilghman's discovery.

Nor do we regard the patent of Manicler, which was taken out in 1826, as anticipating the process of Tilghman. It is true that he directs a mixture of fat with about one quarter of its weight of water to be placed in a boiler and subjected to a heat sufficient to create a pressure equal to one atmosphere above the natural atmospheric pressure (or about 250° Fahrenheit;) the boiler being provided with a safety-valve which would secure that degree of pressure. But, subject to this pressure, the patent directed that the mixture should be made to boil, and of course that the water should be converted into steam; the words are, "apply fire to this di-

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gester to melt and digest the contained tallow or fat and water and keep up a rapid ebullition during about six hours." It is probable, therefore, that any decomposition of the fat which may have been produced by this process was due to the steam formed and passing through the fat, as no means appears to have been adopted for keeping up the mixture of the fat and water. But we have no evidence that the process was ever successful in practice. One of the defendants' witnesses testifies that he tried it, and though he got some results, he adds this pregnant observation. "To transform all the fat in this way at so low a temperature would have required many days." He only pretends that the sample which he obtained showed by its appearance, as well as by its acid action, that the separation had commenced. Evidently, therefore, this was but an abandoned experiment, since we never hear any more of it from 1826 down to the trial of this cause.

It is unnecessary to examine in detail other alleged anticipations of Tilghman's process. We believe that we have specified the most prominent and reliable instances.

Tilghman's discovery was made in 1853, and was, in brief, this: That the fat acids can be separated from glycerine, without injury to the latter, by the single and simple process of subjecting the neutral fat, whilst in intimate mixture with water, to a high degree of heat under sufficient pressure to prevent the water from being converted into steam, without the employment of any alkali or sulphuric acid, or other saponifying agent; the operation even with the most solid fats, being capable of completion in a very few minutes when the heat applied is equal to that of melting lead, or 612° Fahrenheit; but requiring several hours when it is as low as 350° or 400° Fahrenheit. The only conditions are, a constant and intimate commixture of the fat with the water, a high degree of heat, and a pressure sufficiently powerful to resist the conversion of the water into steam. The result is, a decomposition of the fatty body

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into its elements of glycerine and fat acids, each element taking up the requisite equivalent of water essential to its separate existence, and the glycerine in solution separating itself from the fat acids by settling to the bottom when the mixed products are allowed to stand and cool. In this process a chemical change takes place in the fat in consequence of the presence of the water and the active influence of the heat and pressure upon the mixture.

We are satisfied that Tilghman was the original discoverer of this process. His priority was acknowledged at the time by those most interested to question it. Mr. Wilson, to whose statements reference has been made, and who is perhaps more justly entitled than any one else to claim an anticipation of Tilghman's discovery, makes no such pretension, but, on the contrary, concedes Tilghman's right to priority; and, indeed, Price's Patent Candle Company, of which Mr. Wilson was a member and director, took a license under Tilghman's English patent.

As having some bearing upon the proper construction of the patent in suit,* (which will presently be more particularly examined,) it is proper to observe that Tilghman's actual invention, as demonstrated in his experiments made in 1853, before making any application for a patent, was not confined to the use of a coil of pipe in a heated chamber or furnace for effecting the process which he claims, but was frequently exhibited by using a simple digester, filled nearly full with a mixture of fat and water, and heated in a gas stove, or in a vertical position over a gas lamp; the mixture of fat with the water being kept up by a loose metallic rod or jumper, which thoroughly mixed the contents when the digester was shaken. Sometimes the digester was heated in a horizontal position and, being provided with thin copper partitions fixed inside, was made to revolve in order to cause a more perfect mixture of the materials. In using the digester, it not being provided with a safety-valve, a small

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space was left at the top for the formation of sufficient steam to prevent, by its elasticity, the vessel from exploding.

In making these experiments Tilghman not only varied the apparatus, but applied different degrees of heat in the operation. The following is his account of some of these proceedings. He says: "Before applying for my patent I had made many experiments in decomposing by water at temperatures below melting bismuth, sometimes in the coil form of apparatus, but most frequently in digesters. The lowest temperature tried by me was three hundred and fifty degrees Fah. (350° F.,) or 120 pounds pressure continued for four hours. The digester was as usual in a vertical position, but the heat was in this case given by an oil bath. I obtained both fat acids and glycerine in this experiment. but in such small quantities as to prove that though the decomposition did go on at that heat, yet it was very slow compared with the higher heats. I find notes of another experiment, July 15th, 1854, in the coil apparatus, with palm-oil, made at the melting point of tin, 440° Fah., 360 pounds pressure. It was pumped through the coil very slowly, so as to give about thirty minutes' heat, and found to be partly decomposed, so that it was returned to the inlet end of the apparatus and pumped through a second time at the same rate and heat, which produced perfect decomposition of the palm-oil into fat acids and solution of glycerine. Ten minutes' exposure would have perfectly decomposed palm-oil at the heat of melting bismuth, 510° F. Yet I found 70° lower heat required six times as long to produce the same effect. I had often decomposed tallow at 510° F. before taking out my patent, not in the coil apparatus, but in the simple vertical digester. In this case I had to allow increased time on account of the imperfect contact of the fat and water in addition to that required by the diminished temperature."

In the course of his testimony, Tilghman explains why, in his patent, he specially recommended the use of the high

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temperature of melting lead in applying his process to practical use. He says: "Many experiments had shown me that at these higher temperatures the decomposition was carried on with the greatest economy of fuel and cost of apparatus. When in London in 1847, I had found Perkins's house-warming apparatus, consisting of coils of hundreds of feet of pipe, containing water at the temperature of melting lead, had long been in extensive domestic use there. On returning to London in 1853, I found the same apparatus largely used for heating bakers' ovens. As I thus found such heats and pressures were perfectly practical and safe, as well as economical, I thought I was bound to describe my invention in what I then believed to be the best mode of carrying it out, and that, as I was the discoverer of the chemical fats, I could then claim broadly as my process the use of water highly heated and under pressure to decompose fats, no matter what temperature or apparatus was used."

And being asked for his present view as to the practicability, economy, and safety of the higher temperatures as compared with lower temperatures, he said: "I think the high-pressure apparatus is much more economical, both in the first cost and in the expense of working. Its principal disadvantage is that ordinary engineers are not familiar with its management, and consequently dislike it."

In December, 1853, Tilghman, having completed his experiments to his own satisfaction, filed a *caveat* in the Patent Office preparatory to taking out a patent for his invention. In this *caveat* he says: "The invention consists in subjecting animal and vegetable fatty and oily substances containing glycerine to a high temperature and pressure in close vessels, mixed with different agents, according to the effect desired to be produced upon the fatty matter. Thus, when I wish to convert the neutral fatty substances into fatty acids and glycerine, I pump a mixture of the fat and water, under great pressure, through a series of strong

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metal tubes, kept at about the heat of melting lead, and provided with a cooling-worm and safety-valve at its outlet. The neutral fatty substance is decomposed by the process, and the fat acid and solution of glycerine which issues through the safety-valve separate by settling."

Tilghman soon after repaired to England and took out a patent there, dated the 9th day of January, 1854, and sealed the 25th of March. He immediately put in operation an apparatus for exhibiting his process on a small scale. Mr. Wilson, before mentioned, witnessed his experiments, and thus speaks of them in a paper communicated to the Journal of the Society of Arts, January 25, 1856:

"In January, 1854, Mr. Tilghman, an American chemist, who has studied all that has been published here and in France on the subject of acidification and distillation of fatty bodies, obtained a patent for exposing fats and oils to the action of water at a high temperature and under great pressure, in order to cause the combination of the water with the elements of the neutral fats, so as to produce at the same time free fat acids and solution of glycerine. He proposed to effect this by pumping a mixture of fat and water, by means of a force-pump, through a coil of pipe heated to about 612 Fahrenheit, kept under a pressure of about 2,000 pounds to the square inch; and he states that the vessel must be closed, so that the requisite amount of pressure may be applied to prevent the conversion of water into steam. This is, all must admit, a beautiful, original, chemical idea, well carried out; it has yet to prove how far it can compete successfully with distillation. We have made an arrangement with Mr. Tilghman which will give us the means of testing its commercial merits."

Mr. Wilson goes on to state that this process of Tilghman suggested to them the idea of distilling fats by passing steam into them at a high temperature whereby to resolve them into glycerine and fat acids. They found the plan successful, and that the glycerine distilled over with the

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fat acids, but no longer combined with them ; and, in July, 1854, they took out a patent for that process. In a paper read before the Glasgow meeting of the British Association for the Advancement of Science, in September, 1855, Mr. Wilson thus refers to the course of discovery which took place in this branch of manufacture :

“By our first improvement in separating the fat acids from neutral fats, the glycerine was decomposed by the direct action of concentrated sulphuric acid at a high temperature, and all that remained of it was a charred precipitate. A new process for decomposing neutral fats by water under great pressure coming under our notice” (referring to Tilghman’s process) “led us to look again more closely into our old distilling processes, and the doing this showed, what we had often been on the brink of discovering, that glycerine might be distilled.

“In our new process the only chemical agents employed for decomposing the neutral fat, and separating its glycerine, are steam and heat ; and the only agents used in purifying the glycerine thus obtained are heat and steam ; thus all trouble from earthy salts or lead is escaped.

“Distillation, however, purifies the impure glycerine of the old sources.

“On the table is a series of products of palm-oil, which will serve to illustrate the process. Steam, at a temperature of from 550° to 600° Fah., is introduced into a distillery apparatus containing a quantity of palm-oil. The fatty acids take up their equivalents of water, and the glycerine takes up its equivalent ; they then distil over together. In the receiver the condensed glycerine, from its higher specific gravity, sinks below the fat acids.”

We quote more fully from this paper, because it is a contemporary acknowledgment, made by a man who stood in the front rank of those who understood and whose interest it was to understand the most advanced process of resolving fats and oils into their component parts, that Tilghman’s

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“process for decomposing neutral fats by water under great pressure” was “a new process;” and who, with his associates, took hints from it for making new departures and improvements in the art. The statements of Mr. Wilson on this subject are corroborated by other witnesses. Indeed, nearly all those competent to speak on the subject state or admit that the process of decomposing fats into glycerine and fat acids by mixing them with water and subjecting the mixture to a high degree of heat under a pressure sufficient to prevent the conversion of the water into steam, was not known in the arts prior to Tilghman’s discovery. The testimony of some experts to the contrary is based upon their construction of certain patents and publications produced in evidence, the most important of which have already been adverted to.

The question then arises, Has Tilghman secured the exclusive right to the process of which he was thus the inventor?

An examination of the patent itself, which the preceding remarks will enable us better to understand, will show, we think, that it was intended to and does cover and secure to the patentee the general process which has been described, although only one particular method of applying and using it is pointed out.

The specification describes the invention as follows:

“My invention consists of a process for producing free fat acids and solution of glycerine from those fatty and oily bodies of animal and vegetable origin which contain glycerine as their base. For this purpose, I subject these fatty or oily bodies to the action of water at a high temperature and pressure, so as to cause the elements of those bodies to combine with water, and thereby obtain at the same time free fat acids and solution of glycerine. I mix the fatty body to be operated upon with from a third to a half of its bulk of water, and the mixture may be placed in any convenient vessel in which it can be heated to the melting point of lead, until the operation is complete. The vessel must

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be closed and of great strength, so that the requisite amount of pressure may be applied to prevent the conversion of the water into steam.

“The process may be performed more rapidly and also continuously by causing the mixture of fatty matter and water to pass through a tube or continuous channel, heated to the temperature already mentioned ; the requisite pressure for preventing the conversion of water into steam being applied during the process ; and this I believe is the best mode of carrying my invention into effect. In the drawing hereunto annexed are shown figures of an apparatus for performing this process speedily and continuously, but which apparatus I do not intend to claim as any part of my invention.”

The specification then goes on to describe, by the aid of the drawing referred to, the particular device mentioned. But it is evident, and indeed is expressly announced, that the process claimed does not have reference to this particular device, for the apparatus described was well known, being similar to that used for producing the hot-blast and for heating water for the purpose of warming houses. It consists of a coil of iron pipe or other metallic tubing erected in an oven or furnace, where it can be subjected to a high degree of heat ; and through this pipe the mixture, (of nearly equal parts of fat and water,) made into an emulsion in a separate vessel by means of a rapidly vibrating piston or dasher is impelled by a force-pump in a nearly continuous current, with such regulated velocity as to subject it to the heat of the furnace for a proper length of time to produce the desired result ; which time, when the furnace is heated to the temperature of 612° Fahrenheit, is only about ten minutes. The fat and water are kept from separating by the vertical position of the tubes, as well as by the constant movement of the current ; and are prevented from being converted into steam by weighting the exit valve by which the product is discharged into the receiving vessel, so that

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none of it can escape except as it is expelled by the pulsations produced by the working of the force-pump. Before arriving at the exit valve, the pipe is passed, in a second coil, through an exterior vessel filled with water, by which the temperature of the product is reduced. After the product is discharged into the receiving vessel, it is allowed to stand and cool until the glycerine settles to the bottom and separates itself from the fat acids. The latter are then subjected to washing and hydraulic pressure in the usual way.

After describing this apparatus it is added :

“ Although the decomposition of the neutral fats by water takes place with great quickness at the proper heat, yet I prefer that the pump should be worked at such a rate, in proportion to the length or capacity of the heating tubes, that the mixture, while flowing through them, should be maintained at the desired temperature for ten minutes before it passes into the refrigerator or cooling part of the apparatus.”

It is evident that the passing of the mixture of fat and water through a heated coil of pipe standing in a furnace is only one of several ways in which the process may be applied. The patentee suggests it as what he conceived to be the best way, apparently because the result is produced with great rapidity and completeness. But other forms of apparatus, known and in public use at the time, can as well be employed without changing the process. A common digester or boiler can evidently be so used, provided proper means are employed to keep up the constant admixture of the water and fat, which is a *sine qua non* in the operation. Tilghman himself, as we have seen, often used such digesters in making his experiments before applying for his patent; and, in putting up machinery for his licensees after his patent was obtained, he did the same thing when the parties desired it. Yet surely the identity of the process was not changed by thus changing the form of apparatus. No great amount of invention was required to adapt differ-

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ent forms of well-known apparatus to the application of the process. The principal difficulty would be in providing an internal arrangement in the boiler, or digester, for successfully keeping up the intimate commixture of the fat and water. It is evident that this could be accomplished by means of revolving reels armed with buckets, or of a force-pump constantly transferring the heavy stratum of water from the bottom of the mass to the top, aided by horizontal diaphragms partially sectionizing the digester. These devices were resorted to by Tilghman and others when they used a boiler instead of a coil of pipe.

Whilst Tilghman in his patent recommends the high degree of heat named, he does not confine himself to that. It had been fully developed in his experiments, and was well known to him, that a lower degree of heat could be employed by taking longer time to perform the operation; and this would be necessary when boilers or digesters of considerable size were used instead of the coil of pipe, on account of the decreasing power of large vessels to resist the internal pressure. The specification, after describing the use of a metallic coil of pipe, proceeds to add:

“The melting point of lead has been mentioned as the proper heat to be used in this operation, because it has been found to give good results. But the change of fatty matters into fat acid and glycerine takes place with some materials, (such as palm-oil,) at or below the melting point of bismuth (510° Fah. ;) yet the heat has been carried considerably above the melting point of lead without any apparent injury, and the decomposing action of the water becomes more powerful as the heat is increased. By starting the apparatus at a low heat, and gradually increasing it, the temperature-giving products most suitable to the intended application of the fatty body employed can easily be determined.”

Now, when we find it stated, as we do in this specification, that the patentee subjects “fatty or oily bodies to the

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action of water at a high temperature and pressure, so as to cause the elements of those bodies to combine with water ;” that “the mixture may be placed in any convenient vessel in which it can be heated to the melting point of lead, until the operation is complete ;” that “the vessel must be closed and of great strength, so that the requisite amount of pressure may be applied to prevent the conversion of the water into steam ;” that “the decomposition of the neutral fats by water takes place with great quickness at the proper heat ;” that “the melting point of lead has been mentioned as the proper heat to be used in this operation, because it has been found to give good results ;” that “the change of fatty matters into fat acid and glycerine takes place with some materials at or below the melting point of bismuth ;” that “the decomposing action of water becomes more powerful as the heat is increased ;” that, “by starting the apparatus at a low heat and gradually increasing it, the temperature-giving products most suitable to the intended application of the fatty body employed can easily be determined ;” and when we then find that the patentee categorically claims, in general terms, as his invention “*The manufacturing of fat acids and glycerine from fatty bodies by the action of water at a high temperature and pressure ;*” and being satisfied that he was, in fact, the inventor of the general process described and bodied forth in the specification, how can we, by any fair rule of construction, circumscribe this claim in such a manner as that it shall only cover the process when applied in the use of a coil of pipe heated to 612° Fahrenheit? Or, if we allow it to embrace any “convenient vessel,” and do not confine it to a coil of pipe, how can we confine it to a particular degree of heat? What did Tilghman discover? And what did he, in terms, claim by his patent? He discovered that fat can be dissolved into its constituent elements by the use of water alone under a high degree of heat and pressure ; and he patented *the process* of “manufacturing fat acids and glycerine from fatty bodies

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by the action of water at a high temperature and pressure." Had the process been known and used before, and not been Tilghman's invention, he could not then have claimed anything more than the particular apparatus described in his patent; but being the inventor of the process, as we are satisfied was the fact, he was entitled to claim it in the manner he did.

That a patent can be granted for a process, there can be no doubt. The patent law is not confined to new machines and new compositions of matter, but extends to any new and useful art or manufacture. A manufacturing process is clearly an art, within the meaning of the law. Good-year's patent was for a process, namely: the process of vulcanizing India rubber by subjecting it to a high degree of heat when mixed with sulphur and a mineral salt. The apparatus for performing the process was not patented, and was not material. The patent pointed out how the process could be effected, and that was deemed sufficient. Neilson's patent was for the process of applying the hot-blast to furnaces by forcing the blast through a vessel or receptacle situated between the blowing apparatus and the furnace, and heated to a red heat; the form of the heated vessel being stated by the patent to be immaterial. These patents were sustained after the strictest scrutiny and against the strongest opposition.

On the subject of patents for processes, Mr. Justice GRIER, in delivering the opinion of this court in *Corning v. Burden*, 15 How., 267 [6 Am. & Eng. 69,] said: "A process *eo nomine* is not made the subject of a patent in our act of Congress. It is included under the general term, 'useful art.' An art may require one or more processes in order to produce a certain result or manufacture. The term 'machine' includes every mechanical device or combination of mechanical powers and devices to perform some function or to produce a certain effect or result. But where the result or effect is produced by chemical action, by the operation or ap-

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plication of some element or power of nature, or of one substance to another, such modes, methods or operations are called processes. A new process is usually the result of a discovery—a machine, of invention. The arts of tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores, and numerous others, are usually carried on by processes as distinguished from machines. One may discover a new and useful improvement in the process of tanning, dyeing, etc., irrespective of any particular form of machinery or mechanical device. And another may invent a labor-saving machine, by which the operation or process may be performed, and each may be entitled to his patent. As, for instance: A. has discovered that by exposing India-rubber to a certain degree of heat, in mixture or connection with certain metallic salts, he can produce a valuable product or manufacture; he is entitled to a patent for his discovery, as a process or improvement in the art irrespective of any machine or mechanical device. B., on the contrary, may invent a new furnace or stove or steam apparatus, by which this process may be carried on with much saving of labor and expense of fuel, and he will be entitled to a patent for his machine as an improvement in the art.”

Neilson’s patent above referred to had some features very similar to those of Tilghman’s. The strong objection urged against the latter is, that the particular apparatus described in the specification is not that which is generally used, and that it cannot be used with much profit or success in large manufacturing operations; whereas, the slower method of dissolving fats in a common boiler or digester at a lower temperature even than that of melting bismuth, which is not described in the specification, is the one which is generally adopted. Precisely this circumstance existed in reference to the patent of Neilson. The specification directed that the blast or current of air produced by the blowing apparatus should be passed into an air vessel or receptacle heated to a red heat, and from thence into the furnace.

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Then, after stating that the air vessel or receptacle should be increased in size according to the size of the forge or furnace to be supplied, the specification adds: "The form or shape of the vessel or receptacle is immaterial to the effect, and may be adapted to the local circumstances or situation." Now, the most simple and natural form of an air vessel, for heating the blast, as here directed, would be a box or chamber, or a cylindrical vessel; but it turned out in practice that a receptacle of this kind would answer the purpose but very imperfectly; and that the best and most useful method was to heat the blast in a series of tubes placed in a heated oven. This was held to be no ground for invalidating the patent, or for preventing it from covering intermediate tubes, as well as an intermediate box or chamber, the jury being of opinion that a man of ordinary skill and knowledge in the construction of blowing and air-heating apparatus would be able, from the information contained in the specification, to erect a machine which would answer some beneficial purpose in the application of the process, and would not be misled and prevented from so doing by the declaration that the form or shape of the vessel or receptacle was immaterial to the effect. In this view of the subject, the patent was sustained after very great consideration.

Some question has, indeed, been made whether Neilson's patent was sustained as a patent for a process. The Court of Exchequer, in reviewing the proceedings at the trial, and answering the objection that it was a patent for a principle, said: "It is very difficult to distinguish it from the specification of a patent for a principle, and this at first created in the minds of some of the court much difficulty; but, after full consideration, we think that the plaintiff does not merely claim a principle, but a machine embodying a principle, and a very valuable one. We think the case must be considered as if, the principle being well known, the plaintiff had first invented *a mode of applying it* by a mechanical appa-

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ratus to furnaces ; and his invention consists in this—*by interposing a receptacle for heated air between the blowing apparatus and the furnace.* In this receptacle he directs the air to be heated by the application of heat externally to the receptacle, and thus he accomplishes the object of applying the blast which was before of cold air, in a heated state to the furnace.” (Neilson v. Thompson) Web. Pat. Cas. 275, 371 [3 Am. & Eng. 136.]

In this passage, we think that the Court of Exchequer (who spoke through Baron Parke) drew the true distinction between a mere principle, as the subject of a patent, and a process by which a principle is applied to effect a useful result. That a hot-blast is better than a cold-blast for smelting iron in a furnace was the principle or scientific fact discovered by Neilson ; and yet, being nothing but a principle, he could not have a patent for that. But having invented and practically exemplified a process for utilizing this principle, namely : that of heating the blast, in a receptacle, between the blowing apparatus and the furnace, he was entitled to a patent for that process, although he did not distinctly point out all the forms of apparatus by which the process might be applied,—having, nevertheless, pointed out a particular apparatus for that purpose, and having thus shown that the process could be practically and usefully applied. Another person might invent a better apparatus for applying the process than that pointed out by Neilson, and might obtain a patent for such improved apparatus ; but he could not use the process without a license from Neilson. His improved apparatus would, in this respect, stand in a relation to the process analogous to that which an improvement on a patented machine bears to the machine itself.

That Neilson’s patent was regarded as for a process is apparent from what is said by the Judges who had it under consideration. Thus Baron Parke at the trial had said : “The specification and patent together make it clear what

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the discovery was: it was the introduction of hot air by means of heating it before it was introduced into the furnace, between the blowing apparatus and the furnace." Web. P. C., 275, 312. And when the matter came before the House of Lords, after a trial in Scotland, Lord Campbell said: "After the construction first put upon it (the patent) by the learned Judges of the Court of Exchequer, sanctioned by the high authority of my noble and learned friend now upon the woolsack, when presiding in the Court of Chancery, I think the patent must be taken to extend to all machines, of whatever construction, whereby the air is heated intermediately between the blowing apparatus and the blast furnace. That being so, the learned Judge was perfectly justified in telling the jury that it was unnecessary for them to compare one apparatus with another, because, confessedly, that system of conduit pipes was a mode of heating air by an intermediate vessel between the blowing apparatus and the blast furnace, and, therefore, it was an infraction of the patent." (Househill v. Neilson,) Web. Pat. Cas. 715.

This case of the hot-blast was commented upon in the great case of O'Reilly v. Morse, reported in 15th How. 62 [5 Am. & Eng. 483,] and is there recognized and approved in the opinion of this court delivered by Chief Justice TANEY. After quoting the remarks of Baron Parke in the Court of Exchequer, cited above, the Chief Justice says: "We see nothing in this opinion differing in any degree from the familiar principles of law applicable to patent cases. Neilson claimed *no particular mode* of constructing the receptacle, or of heating it. He pointed out the manner in which it *might* be done; but admitted that it might also be done in a variety of ways, and at a higher or lower temperature; and that all of them would produce the effect in a greater or less degree, provided the air was heated by passing through a heated receptacle. * * * Whoever, therefore, used this method of throwing hot air into the furnace, used *the process* he had invented, and thereby in-

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fringed his patent, although the form of the receptacle or the mechanical arrangements for heating it might be different from those described by the patentee. For whatever form was adopted for the receptacle, or whatever mechanical arrangements were made for heating it, the effect would be produced in a greater or less degree, if the heated receptacle was placed between the blower and the furnace, and the current of air passed through it. * * * The patent was supported because he (Neilson) had invented a mechanical apparatus by which a current of hot air, instead of cold, could be thrown in. And this new method was protected by the patent. The interposition of a heated receptacle *in any form* was the novelty he invented." O'Reilly v. Morse, 15 How. 115, 116 [5 Am. & Eng. 483.]

We have quoted these remarks of the Chief Justice more fully because they show most clearly that he put the same construction upon Neilson's patent that was put upon it by Lord Campbell, and that he fully acquiesced in the legality and validity of a patent for a process. Yet it has been supposed that the decision in O'Reilly v. Morse was adverse to patents for mere processes. The mistake has undoubtedly arisen from confounding a patent for a process with a patent for a mere principle. We think that a careful examination of the judgment in that case will show that nothing adverse to patents for processes is contained in it. The eighth claim of Morse's patent was held to be invalid, because it was regarded by the court as being not for a process, but for a mere principle. It amounted to this, namely: a claim of the exclusive right to the use of electro-magnetism as a motive power for making intelligible marks at a distance; that is, a claim to the exclusive use of one of the powers of nature for a particular purpose. It was not a claim of any particular machinery, nor a claim of any particular process for utilizing the power but a claim of the power itself,—a claim put forward on the ground that the patentee was the first to discover that it *could* be thus em-

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ployed. This claim the court held could not be sustained.

That this was the true ground of the decision will be manifest from the following observations of the Chief Justice in the opinion already quoted from. He says: "He (Morse) claims the exclusive right to every improvement where the motive power is the electric or galvanic current, and the result is the marking or printing intelligible characters, signs, or letters at a distance. If this claim can be maintained, it matters not by what *process* or *machinery* the result is accomplished. For aught that we now know, some future inventor, in the onward march of science, may discover a mode of writing or printing at a distance by means of the electric or galvanic current, without using any part of the process or combination set forth in the plaintiff's specification. * * * In fine, he claims an exclusive right to use a *manner and process* which he has not described, and indeed had not invented, and therefore could not describe when he obtained his patent. The court is of opinion that the claim is too broad, and not warranted by law. * * *

It is the high praise of Professor Morse that he has been able by a new combination of known powers, of which electro-magnetism is one, to discover a method by which intelligible marks or signs may be printed at a distance. And for the method or process thus discovered he is entitled to a patent. But he has not discovered that the electro-magnetic current, used as a motive power, in any other method and with any other combinations, will do as well."

After reviewing the statutes and decisions bearing upon the subject, the Chief Justice makes a summary conclusion of the whole matter, as follows: "Whoever discovers that a certain useful result will be produced, in any art, machine, manufacture or composition of matter, by the use of certain means, is entitled to a patent for it; provided he specifies the means he uses in a manner so full and exact that any one skilled in the science to which it appertains can, by using the means he specifies, without any addition to or

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subtraction from them, produce precisely the result he describes. And if this cannot be done by the means he describes, the patent is void. And if it can be done, then the patent confers on him the exclusive right to use the means he specifies to produce the result or effect he describes, and nothing more. And it makes no difference, in this respect, whether the effect is produced by chemical agency or combination; or by the application of discoveries or principles in natural philosophy, known or unknown before his invention; or by machinery acting altogether upon mechanical principles. In either case, he must describe *the manner or process* as above mentioned, and the end it accomplishes. And anyone may lawfully accomplish the same end without infringing the patent, if he uses means substantially different from those described.”—O’Reilly v. Morse, 15 How. 119 [5 Am. & Eng. 483.]

It seems to us that this clear and exact summary of the law affords the key to almost every case that can arise. “Whoever discovers that a certain useful result will be produced in any art by the use of certain means is entitled to a patent for it, provided he specifies the means.” But everything turns on the force and meaning of the word “means.” It is very certain that the means need not be a machine, or an apparatus; it may, as the court says, be a *process*. A machine is a thing. A process is an act, or a mode of acting. The one is visible to the eye—an object of perpetual observation. The other is a conception of the mind, seen only by its effects when being executed or performed. Either may be the means of producing a useful result. The mixing of certain substances together, or the heating of a substance to a certain temperature, is a process. If the mode of doing it or the apparatus in or by which it may be done is sufficiently obvious to suggest itself to a person skilled in the particular art, it is enough, in the patent, to point out the process to be performed, without giving supererogatory directions as to the apparatus

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or method to be employed. If the mode of applying the process is not obvious, then a description of a particular mode by which it may be applied is sufficient. There is, then, a description of the process and of one practical mode in which it may be applied. Perhaps the process is susceptible of being applied in many modes and by the use of many forms of apparatus. The inventor is not bound to describe them all in order to secure to himself the exclusive right to the process, if he is really its inventor or discoverer. But he must describe some particular mode or some apparatus by which the process can be applied with at least some beneficial result, in order to show that it is capable of being exhibited and performed in actual experience.

Let us apply these principles to the present case. In the first place the claim of the patent is not for a mere principle. The chemical principle or scientific fact upon which it is founded is, that the elements of neutral fat require to be severally united with an atomic equivalent of water in order to separate from each other and become free. This chemical fact was not discovered by Tilghman. He only claims to have invented a particular mode of bringing about the desired chemical union between the fatty elements and water. He does not claim every mode of accomplishing this result. He does not claim the lime saponification process, nor the sulphuric acid distillation process, and if, as contended, the result was accomplished by Dubrunfaut, Wilson, and Scharling, by means of steam distillation, he does not claim that process. He only claims the process of subjecting to a high degree of heat a mixture continually kept up, of nearly equal quantities of fat and water in a convenient vessel strong enough to resist the effort of the mixture to convert itself into steam. This is most certainly a process. It is clearly pointed out in the specification, and one particular mode of applying it and carrying it into effect is described in detail. But it is not the particular apparatus

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described which Tilghman desires to secure by his patent. Having pointed out the process and suggested a particular mode of applying it, he claims as his invention "*the manufacturing of fat acids and glycerine from fatty bodies by the action of water at a high temperature and pressure.*" The true construction of this claim is to be sought by comparing it, as we have already done, with the context of the specification; with the statement of the patentee that his "invention consists of a *process* for producing free fat acids and solution of glycerine from those fatty and oily bodies of animal and vegetable origin, which contain glycerine as a base;" that "for this purpose he subjects these fatty and oily bodies to the action of water at a high temperature and pressure, so as to cause the elements of those bodies to combine with water and thereby obtain at the same time free fat acids and solution of glycerine;" that he "mixes the fatty body to be operated upon with from a third to a half of its bulk of water, and the mixture may be placed in any convenient vessel in which it can be heated to the melting point of lead" (which is afterwards explained to be only desirable for a quick result, not essential;) that "the vessel must be closed and of great strength, so that the requisite amount of pressure may be applied to prevent the conversion of the water into steam." This is the process which the patentee claims to have invented; and this description of it gives the proper construction and qualification to the claim.

It is objected that the particular apparatus described in the patent for carrying the process into effect cannot be operated to produce any useful result. We have examined the evidence on this point, and are satisfied that it shows the objection to be unfounded. A recapitulation of this evidence is not necessary. The testimony of Tilghman himself, of Professor Booth, and of Mr. Wilson is directly to the point.

It only remains that we should express our views on the

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question of infringement. The defendants advance several reasons for the purpose of showing that their process does not conflict with that of Tilghman. First, because they do not use the apparatus described in the complainant's patent; but use a boiler in which the charge of fat and other materials is placed and heated; and do not mix the fat and water in the manner pointed out in the specification of the patent but, on the contrary, have inserted in the boiler a pump which forces the water as it settles to the bottom upwards to the top of the mass and pours it upon the upper surface, whence it again finds its way down through the fat, thus keeping up a constant mixture. It is unnecessary to add anything further on the subject of the form of the apparatus used. The patentee is not confined to a metallic coil of pipe heated in a furnace; but his patent extends to and embraces any convenient vessel for holding the mixture, which is strong enough to sustain the pressure necessary to prevent the water from being converted into steam. The defendants use such a vessel, and use it for the purpose indicated and pointed out in the patent. The vessel which they use has the requisite strength to prevent the water from being converted into steam, and does effect that object. And as to the defendants' using a different method from that suggested in the patent for keeping up the mixture of fat and water, that is of no consequence. The keeping up of the mixture is the important thing. That is a necessary part of the process. They employ such a device for effecting this as is adapted to the form of vessel in which they heat the material. Using a boiler instead of a coil of pipe for this purpose, they are obliged to employ an additional or modified means for keeping up the mixture. They only employ such means as, in view of the change adopted in the form of the heating apparatus, and of the known appliances in use in analogous processes, would naturally suggest themselves to a mechanic skilled in the art. Or, if the mode of effecting the continued mixture adopted by the

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defendants should be deemed a new and useful improvement, they might perhaps have a patent for that peculiar device without being entitled to use Tilghman's process, on which it is but an improvement.

Another ground on which the defendants argue that they do not infringe the patent is, that they do not, in their process, use water alone in admixture with fat, but use also some portion of lime; that they formerly used seven per cent. of lime, and now use four per cent. But they do not use lime in the manner and to the extent in which it is used for dissolving fats by the saponifying process. That requires twelve or fourteen per cent. Even if the saponifying process partly takes place, they use Tilghman's process for effecting the balance of the operation. They use water in admixture with fat, heated to a high degree, far above the boiling point, and yet subjected to such pressure as to prevent the water from being converted into steam; and though they may also use other things at the same time, which other things may facilitate the operation, or render a less degree of heat necessary than would be required when water alone is used, and thus actually improve the process of Tilghman, yet this process is included in their operation and forms the basis of it. It is idle, therefore, to say that they do not infringe Tilghman's patent. It is unnecessary to determine what precise part the lime used by the defendants plays in their process; whether as the complainant contends, it saponifies the fat to a certain extent, leaving the remainder to be acted upon by the water alone purely after the process of Tilghman; or whether, as the defendants contend, the lime produces a more perfect and active commixture of the fat and water, or predisposes the fat to unite with the requisite elements of water necessary for producing glycerine and the fat acids, in either case the process of Tilghman, modified or unmodified by the supposed improvement, underlies the operation performed in the defendants' boilers.

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Another ground assumed by the defendants to avoid the charge of infringement is, that they do not heat the mixed mass in the manner pointed out in Tilghman's specification; but, instead of heating the containing vessel by an outside application of heat, they heat the contents by the introduction of super-heated steam. But we think that this does not alter the essential character of the process. The heating by steam is clearly an equivalent method to that of heating by an external fire. The patent does not prescribe any particular method of applying the heat, except when using the pipe and coil apparatus described in the specification; and, even in the use of this apparatus, the outward application of the heat to the pipe is suggested incidentally and as a matter of convenience rather than as an essential requisite. The patentee showed one method in which the heat could be applied. That was all that was necessary for him to do. If it could be applied in any number of different methods, it would not effect the validity of the patent as a patent for a process. The method of heating the mixture by the introduction of steam may be attended with some beneficial results, in producing an agitation, or automatic circulation helpful to the perfection of the admixture of the water and fat; and so far it may be an improvement on heating from without. Suppose this to be so, as before said, the introduction of an improvement gives no title to use the primary invention upon which the improvement is based.

Finally, the defendants argue that they only use a low degree of heat and pressure compared with that pointed out by the patent, namely, only about 310° Fahrenheit instead of 612°. The precise degree of heat, as we have seen, is not of the essence of the patent. The specification only claims that a high degree of heat, such as would be sufficient to melt lead, is most effective and rapid in producing the desired result; but suggests a trial of the apparatus employed with different degrees of heat so as to ascertain that which is best for each particular kind of fat. "By starting the appa-

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ratus," the language is, "at a low heat, and gradually increasing it, the temperature giving products most suitable to the intended application of the fatty body employed can easily be determined." It is probably true, as contended for by the defendants, that by the use of a small portion of lime, the process can be performed with less heat than if none is used. It may be an improvement to use the lime for that purpose; but the process remains substantially the same. The patent cannot be evaded in that way. The matter may be stated thus:—Tilghman discovers a process of decomposing fats by mixing them with water, and heating the mixture to a high temperature under a pressure that prevents the formation of steam. It is a new process, never known before. The defendants seeing the utility of the process, and believing that they can use a method somewhat similar without infringing Tilghman's patent, put a little lime into the mixture, and find that it helps the operation, and that they do not have to use so high a degree of heat as would otherwise be necessary. Still, the degree of heat required is very high, at least a hundred degrees above the boiling point; and a strong boiler or vessel is used in order to restrain the water from rising into steam. Can a balder case be conceived of an attempted evasion and a real infringement of a patent?

And as to the low degree of heat used in the operations of the defendants, this must also be said: that, with the reduction of the temperature, the time of perfecting the operation is more than proportionally increased. Tilghman was aware of this result, and pointed it out in his patent. He expressly says: "The decomposing action of the water becomes more powerful as the heat is increased." What can be done in minutes by the application of a very high degree of heat, requires hours to do at the temperature used by the defendant. But the process is still the same, and the defendants fail to evade the patent.

We pass by the fact that the defendants first took a

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license from the patentee, and under it and under his directions erected substantially the same apparatus which they are yet using. Receiving what they regarded as additional light, they refused to continue the payment of a royalty, and put the complainant to his legal remedy.

It is our opinion that the patent is for a process, that it is a valid patent, and that the defendants infringe it.

We have considered the case entirely upon its merits. It is unnecessary to bestow much discussion upon the technical objections that have been raised. They have not been pressed in the argument, and are probably not seriously relied on. One of them is, that no replication was filed in the case. To this it may be answered, that the parties have throughout treated the case as though it were regularly at issue. The various stipulations into which they have entered, with regard to the admission of evidence to be heard on the trial of the cause, are totally inconsistent with the idea that the case was to be heard merely on bill and answer. Another objection is, that the patent was dated more than six months prior to the filing of the application for it. But under the law then in force, (1854) with regard to the antedating of patents where a foreign patent had been obtained, this was admissible. The sixth section of the Act of March 3, 1839, entitled "An act in addition to an act to promote the progress of the useful arts," expressly declared "that no person shall be debarred from receiving a patent for any invention or discovery * * * by reason of the same having been patented in a foreign country more than six months prior to his application: *Provided*, That the same shall not have been introduced into public and common use in the United States prior to the application for such patent: *And provided also*, That in all cases every such patent shall be limited to the term of fourteen years from the date or publication of such foreign letters patent." Now, we know by the proceedings on the application in this case that the attention of the Commissioner of Patents was

Notes and citations.

expressly called to the fact of the issuing of the English patent, and that the question of the date of the patent in suit was submitted to and considered by him. Under the laws then in force, he determined that the patent ought to be antedated as of the date of the English patent. It must be presumed that his decision was right according to the facts of the case, at least until the contrary is shown; and nothing has been shown to the contrary by any evidence in the cause to which our attention has been called.

The decree of the Circuit Court is reversed, and the cause remanded with directions to enter a decree in conformity with this opinion.

102 U. S. 734-735.

Notes :

2. Novelty: see

Clough v. Gilbert & Barker Mnfg. Co., 106 U. S. 178.

3. Process, patentability:

O'Reilly v. Morse, 15 How. 62 [5 Am. & Eng. 483.]

Corning v. Burden, 15 How. 252 [6 Am. & Eng. 69.]

Rubber Co. v. Goodyear, 9 Wall. 788 [8 Am. & Eng. 150.]

Mowry v. Whitney, 14 Wall. 434 [8 Am. & Eng. 506.]

Mitchell v. Tilghman, 19 Wall. 287 [9 Am. & Eng. 174.]

Wood Paper Patent, 23 Wall. 566 [10 Am. & Eng. 199.]

Cochrane v. Deener, 94 U. S. 780 [11 Am. & Eng. 288.]

Downton v. Yeager Milling Co., 108 U. S. 466.

New Process Fermentation Co. v. Maus, 122 U. S. 413.

Lawther v. Hamilton, 124 U. S. 1.

Telephone Cases, 126 U. S. 1.

Notes and citations .

When not:

Brown v. Piper, 91 U. S. 37 [10 Am. & Eng. 272.]
Western Electric Co. v. Ansonia Brass, etc., Co., 114 U.
S. 447.
Miller v. Foree, 116 U. S. 22.
Dreyfus v. Searle, 124 U. S. 60.
Mosler Safe, etc., Co., v. Mosler, Bahmann & Co., 127 U.
S. 354.

4. A process is an art:

Corning v. Burden, 15 How. 252 [6 Am. & Eng. 69.]
Cochrane v. Deener, 94 U. S. 780 [11 Am. & Eng. 288.]
New Process Fermentation Co. v. Maus, 122 U. S. 413.
Telephone Cases, 126 U. S. 1.

7. Process and principle distinguished:

O'Reilly v. Morse, 15 How. 62 [5 Am. & Eng. 483.]

9. Sufficient description of a process:

Western Electric Mnfg. Co. v. Ansonia Brass Co., 114 U.
S. 447.
Lawther v. Hamilton, 124 U. S. 1.
Telephone Cases, 126 U. S. 1.

11. Improvement gives no right to use the invention improved upon:

Robertson v. Blake, 94 U. S. 728 [11 Am. & Eng. 266.]
Cochrane v. Deener, 94 U. S. 780 [11 Am. & Eng. 288.]

Notes and citations.

Patent in suit:

No. 11,766. Tilghman, R. A. October 3, 1854. Purifying Fat Bodies.

OTHER SUITS ON SAME PATENT :

Tilghman *v.* Werk, 1862. 1 Bond, 511; 2 Fish. 229.
Tilghman *v.* Mitchell, 1864. 2 Fish. 518.
Tilghman *v.* Mitchell, 1871. 9 Blatch. 1; 4 Fish. 599.
Tilghman *v.* Mitchell, 1871. 9 Blatch. 18; 4 Fish. 615.
Mitchell *v.* Tilghman, 1874. 19 Wall. 287 [9 Am. & Eng. 174.]
Tilghman *v.* Proctor, 1888. 125 U. S. 136.

Cited:

IN SUPREME COURT IN :

Fermentation Co. *v.* Maus, 1887. 122 U. S. 413; Bk. 30 L. ed. 1193.
Tilghman *v.* Proctor, 1888. 125 U. S. 136; Bk. 31 L. ed. 664.
Telephone Cases, 1888. 126 U. S. 1; Bk. 31 L. ed. 863.

IN CIRCUIT COURTS IN :

Campbell *v.* Mayor of New York, November, 1881. 20 Blatch. 67; 9 Fed. Rep. 500; 20 O. G. 1817; 12 Reporter, 770.
MacKay *v.* Jackman, April, 1882. 20 Blatch. 466; 12 Fed. Rep. 615; 22 O. G. 85.
Boyd *v.* Cherry, January, 1883. 4 McCrary, 70.
American Bell Tel. Co. *v.* Dolbear, January, 1883. 15 Fed. Rep. 448; 23 O. G. 535.
United Nickel Co. *v.* Pendleton, February, 1883. 21 Blatch. 226; 15 Fed. Rep. 739; 24 O. G. 704.

Notes and citations.

- United Nickel Co. v. Melchior, July, 1883. 17 Fed. Rep. 340.
New Process Fermentation Co. v. Koch, May, 1884. 21 Fed. Rep. 580.
New Process Fermentation Co. v. Maus, June, 1884. 20 Fed. Rep. 725.
The Fire Extinguisher Case, July, 1884. 21 Fed. Rep. 40.
Cary v. Wolf, February, 1885. 23 Blatch. 92; 24 Fed. Rep. 139; 32 O. G. 257.
Morley Sewing Machine Co. v. Lancaster, March, 1885. 23 Fed. Rep. 344.
Alabastine Co. v. Payne, May, 1886. 27 Fed. Rep. 559; 35 O. G. 1438.
Holliday v. Pickhardt, January, 1887. 29 Fed. Rep. 853.
Phillips v. Kochert, May, 1887. 31 Fed. Rep. 39.
Cary v. Lovell Mnfg. Co., June, 1887. 31 Fed. Rep. 344; 24 Fed. Rep. 144.
Celluloid Mnfg. Co. v. American Zylonite Co., September, 1887. 42 O. G. 961.
Hat-Sweat Mnfg. Co. v. Davis Sewing Machine Co., October, 1887. 32 Fed. Rep. 401; 41 O. G. 1273.
American Bell Tel. Co. v. Southern Tel. Co., April, 1888. 34 Fed. Rep. 803.
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IN DECISIONS OF COMMISSIONER OF PATENTS IN:

- Ex parte* Demming, March, 1884. 26 O. G. 1207.
Ex parte Holt, April, 1884. 29 O. G. 171.
Ex parte Blythe, July, 1884. 30 O. G. 1321.
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IN TEXT-BOOKS :

- 2 Abb. Pat. Laws, 1886, pp. 45, 64, 248.

Notes and citations.

Merwin on Pat. Inv't., 1883, pp. 76, 232, 529, 551, 555, 583, 594, 600.

Walker on Pats., 1883, pp. 10, 124, 242, 504.

Syllabus.

JAMES L. SHARP, APPELLANT, v. DOVER STAMP-
ING COMPANY.*

108 (13 Otto) U. S. 250-256. Oct. Term, 1880.

[Bk. 26, L. ed. 445; 19 O. G. 1283.]

Argued March 9, 10, 1881. Decided March 21, 1881.

Particular patent construed and held novel.

1. Letters patent, No. 79,989, H. Y. Lazear, July 14, 1868, Improved Apparatus for Broiling Steak by Gas, and claimed in the first and second claims, consisting of a broiling apparatus wherein the flame is caused to enter receptacles in the bottom of a cylindrical vessel through two equal openings and in two equal sheets, so that both sides of a steak may be cooked equally and at the same time, *held*, not anticipated by letters patent, No. 66,911, D. C. Teller, July 16, 1867, in which the flame is not divided at all, but reaches the side of the steak by impinging against an upper deflector; neither by letters patent, No. 28,781, Wm. F. Shaw, June 19, 1860, which is a broiler wherein the flame is caused to enter the bottom of the vessel in the form of a hollow cylinder, cooking the edge of the steak more rapidly than the other portions. (p. 91.)

Appeal from the Circuit Court of the United States for the District of Massachusetts.

The case is fully stated by the court.

The following are the letters patent referred to in the opinion of the court:

*See Explanation of Notes, page III.

Statement of the case.

H. Y. LAZEAR, OF NEW YORK, N. Y.

Letters Patent, No. 79,989, dated July 14, 1868.

IMPROVEMENT IN GAS-HEATERS.

The schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, H. Y. Lazear, of the city, county, and State of New York, have invented a new and improved Apparatus for Broiling Steak by Gas ; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings forming part of this specification.

This invention relates to a new and improved apparatus for broiling meats or steaks by gas or over a gas-stove; and it consists in arranging a closed casing or double-walled upright cylinder over a gas-stove, in such a manner that the wire steak-broiler with the steak is inserted therein, and the steak broiled simultaneously on both sides ; and also in the arrangement for protecting the grease or juices which exude from the steak from burning, and in the general formation and operation of the apparatus, as will be hereinafter described.

Figure 1 represents the casing or cylinder as when in use, standing upon a gas-stove, the latter being seen in red color.

Fig. 2 is a vertical section of the same through the line *xx*.

Similar letters of reference indicate corresponding parts.

A is the cylinder, which is made of tin or other suitable metal, composed of two oval casings, which, when placed together, leave an annular space between them, as seen in the drawing.

B represents the annular space.

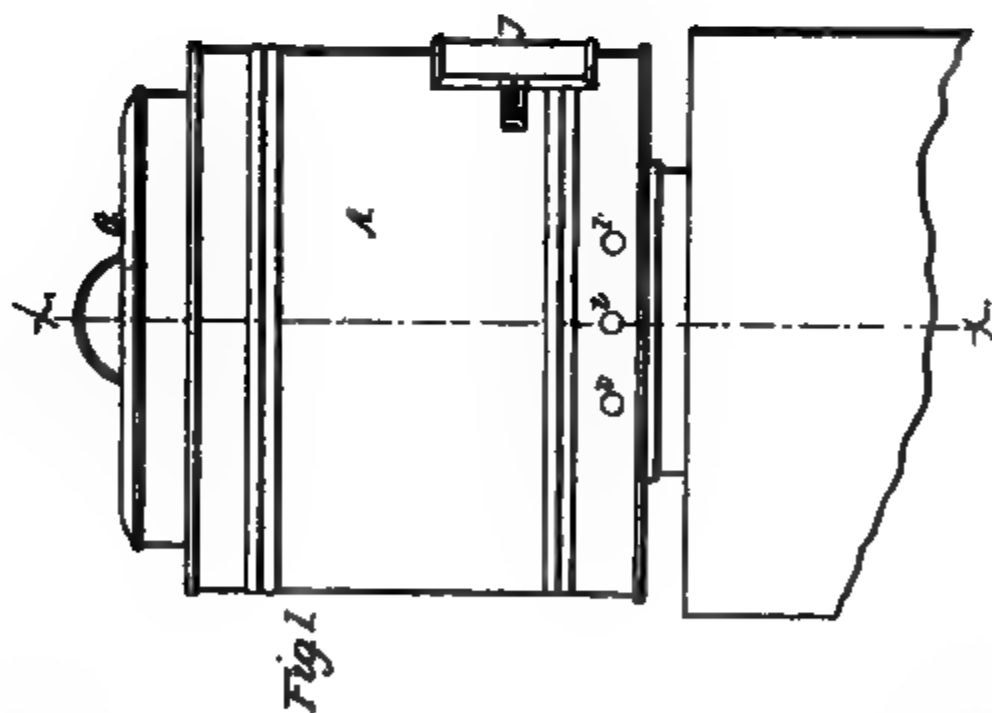
C is the fire-chamber or interior of the cylinder in which the broiling is done.

H. Y. Lazear.

Gas Store.

Nº 79,989.

Patented Jul. 14, 1868.



Witnesses:

A. A. Morgan
G. L. Lutton

Inventor:
H. Y. Lazear
per Wm. M. Munn
Attorney

Statement of the case.

D is the wire steak-broiler in which the steak is supported.

E is a V-shaped trough, against which the flame impinges, and is spread or divided, and rises on each side, as seen in the drawing.

F represents the dripping-pan in which the bottom of the broiler rests, and which receives the fat or juices from the meat.

The dripping pan, F, rests on plaster of Paris or other good non-conductor of heat, E', with which the V-shaped trough, E, is filled, or nearly filled, as seen, for the purpose of preventing the heat of the flame from burning the grease in the dripping pan, and thereby preventing smoke in the operation of broiling.

G is the cover, which is taken off for inserting the steak, and is then put on, and the broiling-chamber closed at the top while the steak is being broiled.

h represents orifices through the sides of the inner casing, which allow of the discharge of the heated air or gases from the broiling chamber, C, into the annular space, B, which gases descend, and are discharged into the atmosphere through the orifices, i, near the bottom of the outer casing.

J is a door in the end of the casing, for admitting the dripping-pan.

By this arrangement the steak is broiled or cooked upon each side simultaneously.

The fat and juices are caught in the pan, F, and protected from burning by the filling, E'.

The apparatus is very simple and durable, and the operation is perfect.

I claim as new, and desire to secure by Letters Patent—

1. The V-shaped trough, E, and the filling, E', by which the flame is divided, and the grease protected from burning, and smoke thereby prevented, substantially as described, in combination with a gas steak-broiler.

2. The annular space, B, and the orifices, h, and i, substantially as and for the purposes set forth.

3. An apparatus for broiling steak by gas, whereby the

Statement of the case.

steak is broiled or cooked simultaneously on both sides, or where the sides are equally exposed to the flame and heat, substantially as shown and described.

The above specification of my invention signed by me, this 10th day of June, 1868.

H. Y. LAZEAR.

Witnesses:

FRANK BLOCKLEY,
ALEX. F. ROBERTS.

D. C. TELLER, OF TERRE HAUTE, INDIANA.

Letters Patent, No. 66,911, dated July 16, 1867.

STEAK-BROILER.

The schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, D. C. Teller, of Terre Haute, in the county of Vigo, in the State of Indiana, have invented a new and improved Mode of Broiling Steaks and Toasting Bread ; and I do hereby declare that the following is a full, true, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in spreading steaks in a vertical position, one edge to the fire, around small wires or rods, the upper edge being caught upon these wires or rods, and also in placing bread to be toasted between these vertical wires or rods, and covering with a metal cap, having an inverted cone in the top, thereby making a uniform heat upon the steaks and bread, and rendering a speedy and effectual cooking of all parts at one time, and without any attention after the cooking commences.

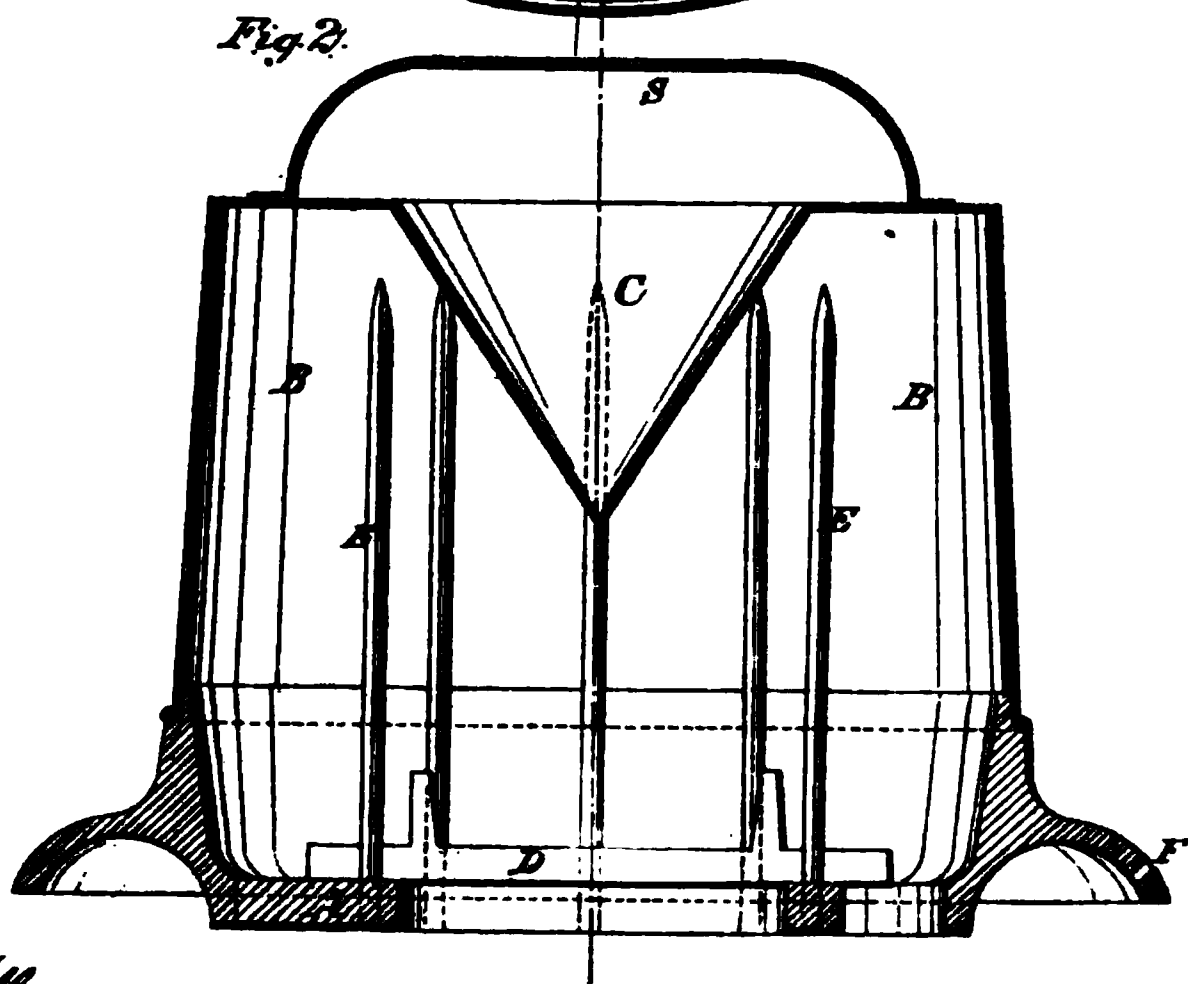
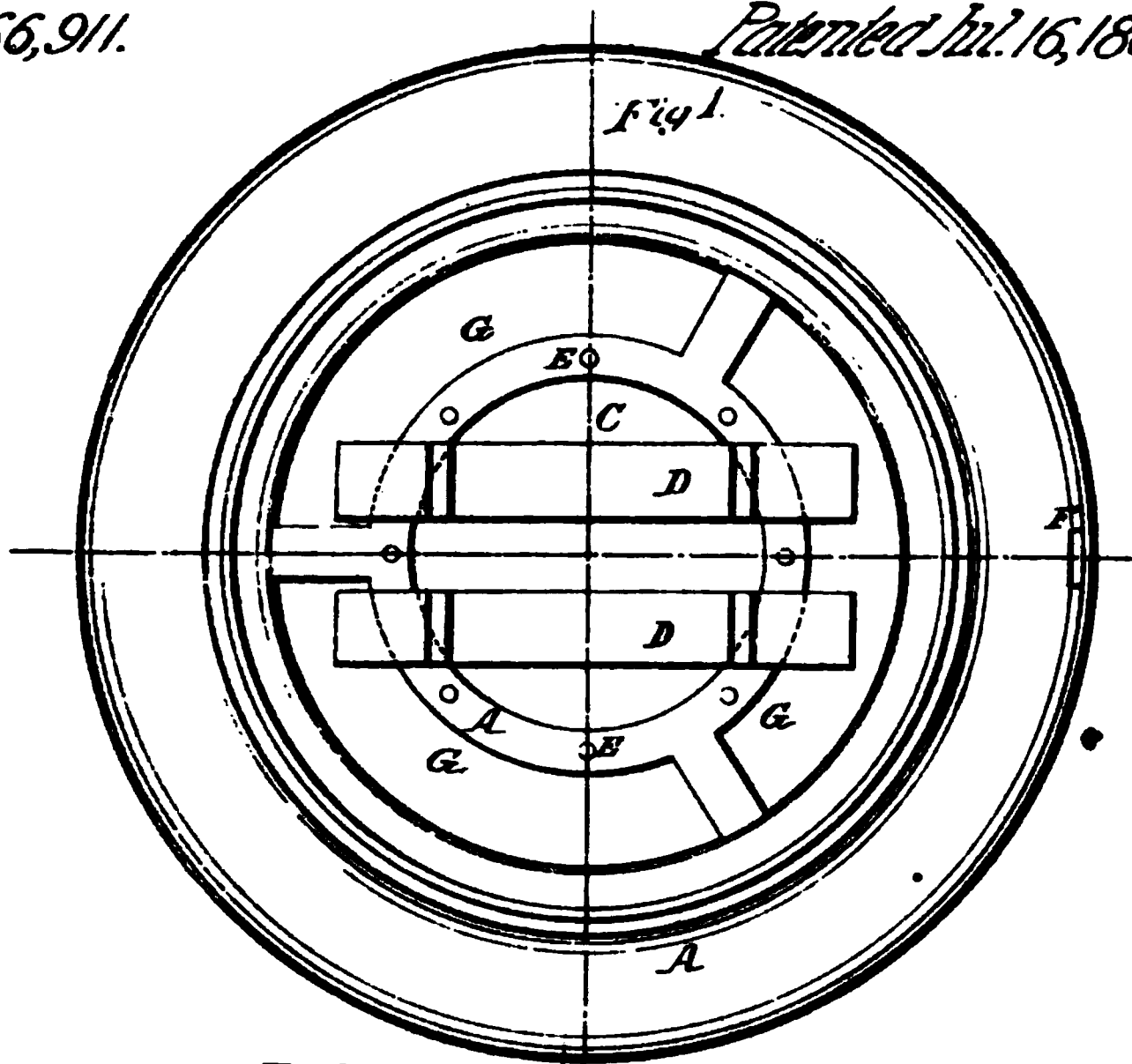
To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

D. C. Teller.

Gridiron.

Nº 66,911.

Patented Jul. 16, 1867.



Witnesses
E. B. Allen
Geo. M. Cilly

Inventor
D. C. Teller

Statement of the case.

Figure 1 is a view of the broiler and toaster, with the cover removed.

Fig. 2 is a sectional view of the broiler, toaster, and cover.

The bottom of this apparatus consists of an inside and outside ring, as shown in fig. 1, A A, with open spaces between G G G G, for the heat to pass up freely. E E are vertical wire rods inserted in the inside ring, with the upper ends sharpened. B B are a cover. It may be made of sheet iron, tin, or other light metal, and is provided with a handle, S, to remove it from the bottom when desired. C is an inverted cone in the top of the cover, B, to deflect the heat. The whole apparatus may be made round or oblong shape, to fit the hole in a cooking-stove or range.

The mode of operation is as follows: Around the wires or rods the steaks are spread in a vertical position, one edge downward. The upper edge of the steaks being caught upon the wires or rods, and the cap or cover being placed on, the apparatus is placed over a hole or opening in the top of a stove or range, with the fire beneath. In this position the heat is applied to both sides of the steaks at the same time, requiring no further attention for cooking. For toasting, slices of bread are placed edgewise on the movable plates, D D, to prevent the lower edges from burning. These plates are only used for toasting. By inserting a stove-hook or handle in the opening, F, the apparatus may be removed when desired. This apparatus is very simple and useful.

What I claim as my invention, and desire to secure by Letters Patent, is—

The vertical position in which the steaks are placed over the fire, and the arrangement of the vertical rods, E E, all substantially enclosed, with the cap, C, as specified for the purposes in the specification.

D. C. TELLER.

Witnesses :

E. B. ALLEN,
GEO. M. SIBLY.

Statement of the case.

WILLIAM F. SHAW, OF BOSTON, MASS.

Letters Patent, No. 28,781, dated June 19, 1860.

The schedule referred to in these Letters Patent and making part of the same.

To all persons to whom these presents shall come :

Be it known that I, William F. Shaw, of Boston, in the county of Suffolk, and State of Massachusetts, have invented an improvement in Apparatus for Broiling or Roasting by Gas or Hydrocarbon Vapors, and I do hereby declare that the same is fully described and represented in the following specification and the accompanying drawings, of which—

Figure 1 is a front elevation.

Fig. 2, a transverse section, and

Fig. 3, a longitudinal section of my said improved apparatus.

Fig. 4, is a rear view of the steak-holder and its supporter.

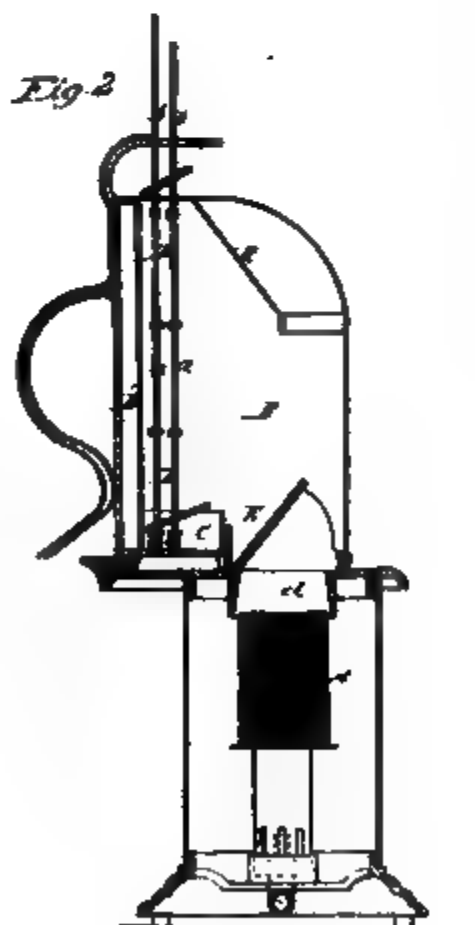
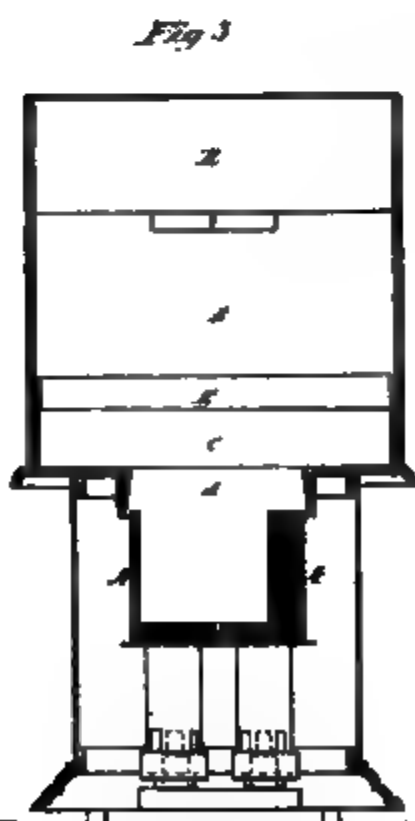
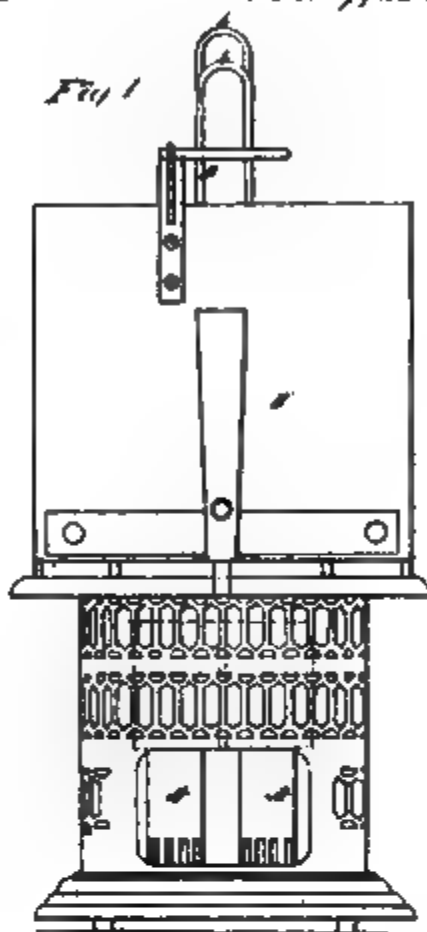
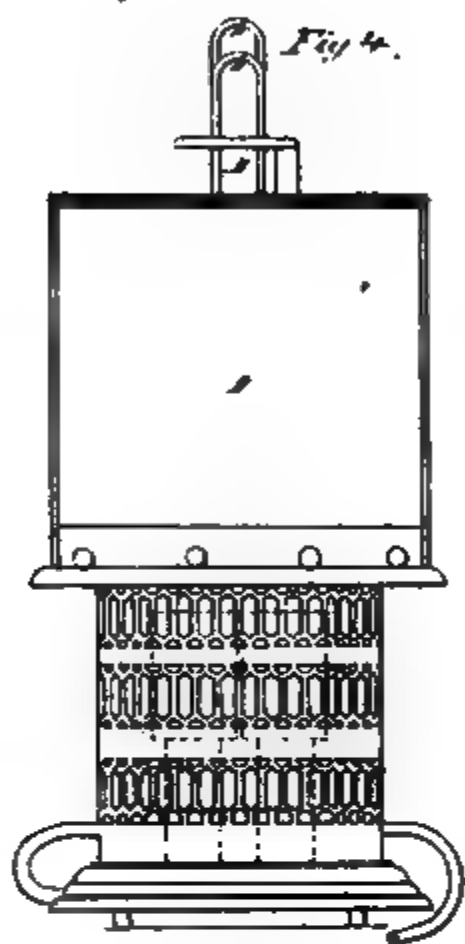
The nature of my invention consists in the arrangement of the steak-holder, the heating chamber, and the burner or burners. Also, in the arrangement of two deflectors in the heating chamber and with respect to the burner or burners and the steak-holder when arranged as specified. Also, in the combination of a closed air-chamber or space with the steak-holder, the heating chamber and the burners arranged as specified.

In the drawings, A A, exhibit two aerified gas-burners arranged underneath and made to open into a heating or broiling chamber or vessel, B, whose front vertical side or cover is constructed as a thin hollow box or chamber, B', attached to a drip-pan or gravy-receiver, C, the same being arranged as shown in the drawings. Against or alongside of the inner face of the said cover, and within the heating chamber, a steak-holder, D, is placed, it being composed of two wire frames, *a a*, hinged or connected together at or

W. F. Shaw.
Gas Stove.

Nº 20.781.

Patented Jun. 19, 1860.



Witnesses *James Irving*
William Cherry

Inventor Mr F Shaw

Statement of the case.

near one edge of each and furnished with handles, *b b*. When a steak or piece of meat or other food is to be cooked in the apparatus, it is first to be placed between the two wire frames, *a a*, and they are to be closed upon it so as to hold it upon opposite sides. Immediately over a long opening, *d*, made in the bottom of the heating chamber and under which the burners are placed, I arrange an inclined deflecting plate, *E*, causing the same to extend across the heating chamber from end to end thereof.

Furthermore, in the upper part of the said heating chamber and over the said deflecting plate, I arrange another deflector or plate, *R*, and in manner or with respect to the first, as shown in the drawings. By means of these deflectors and the arrangement of the steak-holder, the broiling chamber, and the burner or burners, I am able to obtain a more equal distribution of heat within the heating chamber, and less liability of burning the steak, and a better chance of collecting the gravy than when the steak-holder is placed horizontally over the burners. So with respect to the closed air-chamber or space in the cover, it prevents the escape of heat from the steak and causes it to cook to better advantage than would a single plate.

I claim the arrangement of the steak-holder, the broiling chamber, and the burner or burners.

Also, the arrangement of the two deflectors with the heating chamber, and with respect to the burner or burners and the steak-holder when arranged as specified.

Also, the combination of the closed air-chamber or space in the cover, with the steak-holder and the heating chamber arranged as specified.

Also, the combination of the vertical side or cover with the steak-holder and drip-pan, said side or cover having a closed air-chamber or space, as specified and shown in drawings.

Witnesses :

WM. F. SHAW.

J. FRANCIS LORING,
WILLIAM STRONG.

Argument of counsel.

Mr. Arthur v. Briesen, for appellant :

The inventor of a machine is entitled to the benefit of all the uses to which it can be put, no matter whether he had conceived the idea of the use or not. *Smith v. Nichols*, 21 Wall. 112 [9 Am. & Eng. 425 ;] *Roberts v. Ryer*, 91 U. S. 150 [10 Am. & Eng. 302 ;] *The Swain Turbine Mnfg. Co. v. Ladd*, 19 Off. Gaz. 62 [102 U. S. 408; p. 1 *ante*.]

When a patentee recommends a particular method of use in his specification he does not thereby constitute it a portion of his patent. *Sewall v. Jones*, 91 U. S. 171 [10 Am. & Eng. 336 ;] *Curtis on Pats.* § 320.

An attempt has been made to show that the dividing trough is not superior to the single inlet of Shaw's patent, but it is not competent for the defendant, who has used the dividing trough, to attempt to prove that there is no merit in that construction.

"The defendant having used the process patented, is estopped from insisting that a portion of the process is useless." *Whitney v. Mowry*, 4 Fish. 207 ; *Coleman v. Liesor*, Law's Dig. 281, § 28 ; *Vance v. Campbell*, 1 Fish. 485.

The Teller patent, Exhibit O, is in no manner an anticipation of complainant's first claim nor of the third claim, if the words "substantially as described," in said claim, have the effect of pointing to the specification and drawing.

Smith v. Goodyear D. V. Co., 93 U. S. 486 [11 Am. & Eng. 1 ;] *Ames v. Howard*, 1 Sumn. 482 ; *Ryan v. Goodwin*, 3 Sumn. 514 ; *Blanchard v. Sprague*, 3 Sumn. 535 ; *Pitts v. Whitman*, 2 Story. 609 ; *Smith v. Downing*, 1 Fish. 64 ; *Ransom v. The Mayor*, 1 Fish. 252.

The Lazear patent does not cover the apparatus described in the Shaw and Teller patents, therefore it cannot be anticipated by them. *Eickemeyer Hat Blocking Co. v. Pearce*, 10 Blatch. 403.

Messrs. Thos. Wm. Clarke, J. L. S. Roberts, and Geo. L. Roberts, for appellee :

Lazear, by his apparatus, split the products of combus-

Opinion of the court.

tion into two sheets by his transverse V-shaped trough, and he changed the shape of the non-conducting shield below the dripping pan. He also changed the shape of the casing.

This probably economized gas and material used in construction of the apparatus, and his patent may be good for this.

Defendants' apparatus is an improvement on the Teller apparatus, and does not infringe Lazear's invention. He uses the Shaw gridiron of the 1860 patent; he protects his dripping pan, as Shaw protected his in 1860 and before, by an air-space. It introduces a new and more convenient dripping pan, not indicated by Lazear.

Complainant proves that, as organized in defendants' apparatus, there is and can be no analogy between the gas-broiler and the pot-hole broiler, and that defendants' apparatus is not a gas-broiler at all, and therefore not an infringement.

Mr. Justice Woods delivered the opinion of the court:

On July 14, 1868, a patent was (a) granted to one H. Y. Lazear for an improved apparatus for broiling steak by gas. This patent was transferred by the assignment of the patentee to one W. Phillips, who, by another assignment, transferred it to Sharp, the complainant. The invention was represented and described as an upright cylinder or closed casing of sheet metal, with a lid for closing the top, and with an open bottom. The diameter of the open bottom was traversed by a V-shaped horizontal trough, dividing it into two equal openings, through which the flame of a gas stove, over which the apparatus was placed, might enter in two equal sheets. The trough was filled with plaster of Paris or other good non-conductor of heat, and upon this non-conductor the dripping pan was placed for receiving the juices of the meat. The steak was clasped in a wire broiler, which was placed in the cylinder or closed casing in

103 U. S. 350-351.

(a) Otto substitutes for "a patent was" "letters patent, No. 79,989 were."

Opinion of the court.

a vertical position, with its lower end resting in the dripping pan, the two flat sides of the meat being equally exposed to the two sheets of flame which entered the lower end of the cylinder in the manner stated. The object was to produce an apparatus in which both sides of the meat might be cooked equally and at the same time, and in which the drippings from the meat might be caught in a pan, where it would be protected from the injurious effects of the heat. The latter object was attained by the non-conductor filling upon which the drip pan rested, and which filled the V-shaped trough. The trough served to contain the filling and support the pan, and to divide the flame into two equal sheets, which ascended along the sides of the steak.

The first and third claims of the patent were thus stated :

1. The V-shaped trough E and the filling E', by which the flame is divided, and the grease protected from burning, and smoke thereby prevented, substantially as described, in combination with a gas steak broiler.

3. An apparatus for broiling steak by gas, whereby the steak is broiled or cooked simultaneously on both sides, or where the sides equally exposed to the flame and heat, substantially as shown and described.

On May 3, 1876, (b) the bill in this case was filed. The complainant claimed to be the sole owner of the patent (c) issued to Lazear, and charged that the defendant, the Dover Stamping Company, had unlawfully and wrongfully made, used, and sold, and was making, using, and selling, large quantities of gas-heaters, such as were described and claimed in said letters patent, (d) in violation of the exclusive privilege of the complainant, and in infringement of his letters patent (e).

103 U. S. 251-252.

(b) Otto substitutes for from b to c "Sharp filed the bill in this case. He claimed to be the sole owner of the letters patent."

(d) Otto substitutes for from d to e "in infringement of them, and in violation of his exclusive privilege."

Opinion of the court.

The bill prayed that the defendant might be compelled to account for and pay over all gains and profits derived from the infringement of the patent, and for a perpetual injunction restraining it from making, using, or vending gas-heaters embodying the invention described in the letters patent claimed by complainant.

Upon final hearing in the Circuit Court the bill was dismissed. The complainant (*f*) thereupon brought the case here by appeal.

It is conceded by the defendant that the gas-heaters manufactured by it embody the invention claimed in letters patent issued to Lazear. The defence relied on is that Lazear "Was not the original and first inventor of the whole or any substantial or material part of the things set forth and claimed as new in said letters patent, but that prior to said alleged invention thereof the same had been described and set forth in the following specified letters patent of the United States, and known to and used by the several patentees therein named, at the places of their respective residences, that is to say: No. 28,781, dated June 19, 1860, and granted to William F. Shaw, of Boston, Massachusetts; No. 38,018, dated March 24, 1863, and granted to James M. Dick, of Buffalo, New York; and No. 66,911, dated July 16, 1867, and granted to D. C. Teller, of Terre Haute, Indiana."

Dick's patent was not introduced in evidence, but Shaw's and Teller's were.

The apparatus described in the Teller patent was a cylindrical vessel, having a central opening in the bottom, and an annular opening around the central opening, and a series of vertical wires or rods inserted in the annular bottom that intervened between the two openings. An inverted conical deflector was suspended in the central space from above.

The claim of Teller's patent was thus stated:

"The vertical position in which the steaks are placed

108 U. S. 252.

(*f*) Otto substitutes for "The complainant" "Sharp"

Opinion of the court.

over the fire, and the arrangement of the vertical rods, E E, all substantially enclosed with the cap, C, as specified for the purposes in the specifications."

It is clear that this contrivance did not anticipate the invention of Lazear. It had no V-shaped trough, filled with a non-conducting substance, nor the dripping pan referred to and claimed in complainant's (g) letters patent, nor anything resembling it. It was not adapted to be used with a removable wire broiler, and did not evenly distribute the flame along the two sides of the steak. In short, it did not in any manner embody or anticipate the first and third claims of complainant's patent (h).

The Shaw patent shows an apparatus for broiling or roasting by gas. Its character is thus generally described by the inventor in his specification:

"The nature of my invention consists in the arrangement of the steak-holder, the heating chambers, and the burner or burners. Also in the arrangement of two deflectors in the heating chamber, and with respect to the burner or burners and the steak-holder, when arranged as specified."

It consisted of a heating or broiling chamber, whose front vertical side could be removed, and was constructed as a thin, hollow box attached to a drip pan or gravy receiver. Against and alongside the inner face of the said cover, and within the heating chamber, a steak-holder was placed, composed of two wire frames, hinged or connected together at or near one edge of each and furnished with handles. When a steak or other food was to be cooked in the apparatus it was placed in the steak-holder. In the bottom of the cooking chamber there was a long opening, under which the gas burners were placed. Over this opening was arranged an inclined deflecting plate, which extended across the heating chamber from end to end.

In the upper part of the heating chamber, and over the

103 U. S. 252-253.

(g) Otto substitutes for "complainant's" "his."

(h) Otto substitutes for "complainant's patent," "those letters."

Opinion of the court.

deflecting plate above mentioned, was arranged another deflecting plate. By means of thin deflectors and the arrangement of the steak-holder, the broiler chamber, and the burners, the inventor claimed to be able to obtain a more equal distribution of the heat within the heating chamber, with less liability of burning the steak and a better chance of collecting the gravy, than when the steak-holder was placed horizontally over the burners.

The claims of the inventor were thus stated :

“ I claim the arrangement of the steak-holder, the broiling chamber, and the burner or burners.

“ Also, the arrangement of the two deflectors within the heating chamber, and with respect to the burner or burners and the steak-holder when arranged as specified.

“ Also the combination of the closed air-chamber or space in the cover with the steak-holder and heating chamber arranged as specified.

“ Also the combination of the vertical side or cover with the steak-holder and drip-pan, said side or cover having a closed air chamber or space, as specified and shown in drawings.”

It requires no discussion to show that this is not an anticipation of the Lazear patent. The Shaw patent does not describe or claim what is shown and claimed in the first and third claims of the Lazear patent.

It has no V-shaped trough, filled with plaster of Paris or other non-conductor of heat, by which the flame is divided and the grease protected from burning.

It is not an apparatus for dividing the flame so that the sides of the steak may be equally exposed thereto, and the steak thus broiled simultaneously and equally on both sides. On the contrary, the flame is not divided at all, and whatever flame reaches the side of the steak next to the removable vertical cover, does so by impinging against the upper deflector, and then passing over the top of the steak-holder

Opinion of the court.

and descending between the steak and the removable vertical cover.

The evidence makes it clear that this contrivance is not capable of broiling a steak equally and simultaneously on both sides, the lower deflector causing the lower part of the steak to remain raw while the upper part is burned, and the side next the removable vertical cover is left raw.

We can find nothing in this invention which anticipates the claims of the Lazear patent.

To sustain the averment in the answer, of want of novelty in the apparatus described in the Lazear patent, the defendant has introduced an apparatus called Shaw's cooker, which he alleges was designed and manufactured and sold by Shaw as early as 1856.

This consisted of an upright cylindrical heating chamber with a round hole in the bottom. Under this hole the gas burners were placed. To direct the flames the hole was partially filled by a cone-shaped disc, which filling the central portions of the hole, left an annular open space next its outer edge through which the flames could enter the heating chamber. The flames, therefore, entered the heating chamber in the form of a cylinder. The steak or other meat to be cooked was suspended from hooks fastened to the cover of the cooking chamber.

The cone-shaped disc which partially occupied the opening in the bottom of the cooking chamber was filled with plaster of Paris and hard coal ashes. The drip-pan was placed over the disc on legs or supports which allowed a passage of air under the drip-pan. The meats were suspended over the pan.

This apparatus was not contrived to accomplish the ends which Lazear's patent had in view, nor was it an equivalent of Lazear's (i) apparatus. Instead of dividing the volume of flame into two sheets, by which a steak could be broiled simultaneously on both sides, both sides being equally ex-

Opinion of the court.

posed to the flame and heat, it admitted the flames to the cooking chamber in the form of a hollow cylinder. The steak, therefore, suspended from the top of the cooking chamber would not be equally exposed to the flame and heat. The edge of the steak would be cooked more rapidly than the other portions.

It is evident, and the testimony sustains this view, that Shaw's contrivance was a gas cooking stove for cooking food of various kinds,—particularly joints of meat and fowls. It was not specially intended or adapted for cooking steaks in the way in which that process was accomplished by Lazear's apparatus.

Nor was the dripping-pan contrived to secure the ends for which the Lazear patent was designed. The dripping-pan being elevated on legs or supports above the disc, left a space underneath, which the flames would fill, and thus allow the juices of the meats to be burned, a result which was averted by the Lazear patent. That left no space between the drip-pan and the V-shaped trough filled with plaster of Paris or other non-conductor of heat. The fact that its bottom rested upon the plaster of Paris protected the juices of the meat from the action of the flames.

Upon a consideration of all the evidence we are satisfied that the invention of Lazear was new and original and had not been anticipated by the patents of Teller or Shaw or the gas stove made by Shaw in 1856.

The invention, it is admitted, has been infringed by the defendant. The evidence places its utility beyond question. Being novel and useful and protected by the letters patent issued to Lazear, the defendant should account to the complainant for the gains and profits derived by it from the infringement of the Lazear patent.

As the Circuit Court dismissed the bill, its decree must be reversed and the cause remanded for further proceedings in conformity with this opinion.

Notes and citations.

Patent in suit: .

No. 79,989. Lazear, H. Y. July 14, 1868. Gas Heater.

Cited :

IN TEXT-BOOKS :

Merwin on Pat. Invt., 1883, p. 180.

Syllabus.

JOHN T. WEBBER, PLAINTIFF IN ERROR, v.
STATE OF VIRGINIA.*

103 (13 Otto) U. S. 344-351. Oct. Term, 1880.

[Bk. 26, L. ed. 565 ; 20 O. G. 369.]

Argued March 11, 1881. Decided May 2, 1881.

Patented article subject to State tax. State tax on production of other State unconstitutional. State discrimination against non-residents.

1. The right conferred by the patent laws of the United States to inventors to sell their inventions and discoveries does not take the tangible property, in which the invention or discovery may be exhibited or carried into effect from the operation of the tax and license laws of the State. (p. 106.)
2. Congress never intended that the patent laws should displace the police powers of the State. Whatever rights are secured to inventors must be enjoyed in subordination to this general authority of the State over all property within its limits. (p. 107.)
3. A State may require the taking out of a license for the sale of a manufactured article, and the fact that the article is produced under a patent will not defeat this power. (p. 108.)
4. Where the State of Virginia imposed a tax, in the form of a license upon the manufacturers of another State, while those of the State itself were free from such taxation it was held invalid, since it discriminated against the rights of the non-resident manufacturer and violated the constitutional provision vesting all commercial control in the federal government. (p. 108.)

[Citations in the opinion of the court :]

Patterson v. Kentucky, 97 U. S. 501 [12 Am. & Eng. 106.] p. 107.

Welton v. Missouri, 91 U. S. 275. p. 110.

Mobile Co. v. Kimball, 103 U. S. 238. p. 111.

*See Explanation of Notes, page III.

Statement of the case.

In error to the Supreme Court of Appeals of the State of Virginia.

Statement of the case by Mr. Justice FIELD :

This case comes before this court on a writ of error to the Supreme Court of Appeals of the State of Virginia, and arose in this way : In May, 1880, the plaintiff in error, J. T. Webber, was indicted in the county court of Henrico county, in that State, for unlawfully selling and offering for sale in that county, to its citizens, certain machines known as Singer sewing-machines, which were manufactured out of the State, without having first obtained a license for that purpose from the authorities of the county, or having paid the tax imposed by law for that privilege.

The indictment was founded upon the 45th and 46th sections of the revenue law of the State, which are as follows :

“45. Any person who shall sell, or offer for sale, the manufactured articles or machines of other States or Territories, unless he be the owner thereof and taxed as a merchant, or take orders therefor, on commission or otherwise, shall be deemed to be an agent for the sale of manufactured articles of other States and Territories, and shall not act as such without taking out a license therefor. No such person shall, under his license as such, sell or offer to sell such articles through the agency of another ; but a separate license shall be required from any agent or *employé* who may sell or offer to sell such articles for another. For any violation of this section, the person offending shall pay a fine of not less than \$50 nor more than \$100 for each offence.

“46. The specific license tax upon an agent for the sale of any manufactured article or machine of other States or Territories shall be twenty-five dollars ; and this tax shall give to any party licensed under this section the right to sell the same within the county or corporation in which he shall take out his license ; and if he shall sell or offer to sell the same in any other of the counties or corporations of this State, he shall pay an additional tax of \$10 in each of the

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counties or corporations where he may sell or offer to sell the same. All persons other than resident manufacturers or their agents, selling articles manufactured in this State, shall pay the specific license tax imposed by this section."—Acts of Assembly 1875 and 1876, p. 184, ch. 162, secs. 45, 46.

To the indictment the accused pleaded "not guilty;" and on the trial it was proved that he had sold and offered to sell sewing-machines in Henrico county, as charged, but that at the time he was acting as agent or *employé* of the Singer Manufacturing Company, a corporation created under the laws of New Jersey; that this company had a place of business in Richmond, Virginia, where it was licensed as a resident merchant, for the year beginning May 1, 1880, and had paid the required license tax; and where it kept a stock of machines for sale;—that the machines sold by the accused were the property of the company, and were manufactured by it out of the State, and in accordance with specifications of a patent of the United States, granted in 1879, to one W. C. Hicks, and by him transferred to the company. It also appeared that the accused had not taken out a license to sell the machines in Henrico county, and was not himself taxed as a merchant, and had not taken orders for the machines on commission or otherwise.

On the trial his counsel requested the court to instruct the jury, that if they believed the Singer Manufacturing Company had paid for a general merchant's license for the year beginning May 1st, 1880, and received such license, or that the machines sold were constructed according to the specifications of the patent held by the company, and that the accused was acting in the sales made only as an *employé*, he was entitled to a verdict of acquittal. The court refused to give these instructions, and, at the request of the attorney for the Commonwealth, instructed the jury, in substance, that if they believed the accused had, at different times within the year, previous to the indictment, sold, or offered to sell in Henrico county to its citizens Singer sewing-machines manufactured beyond the State, and at the

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time he was neither the manufacturer himself nor the owner of them, and was not taxed as a merchant in the county, and had not taken orders therefor on commission or otherwise, and had not obtained a license to sell the same in the county, and had not paid to the proper officer the tax imposed by law for selling the same in that county, they should find him guilty.

The jury found the accused guilty, and he was sentenced to pay a fine of fifty dollars besides costs. On appeal to the Circuit Court of the county this judgment was affirmed, and on further appeal to the Supreme Court of Appeals of the State the judgment of the Circuit was affirmed. To review the latter judgment the case is brought here on writ of error.

Messrs. Meredith and Cocke, for appellant :

The question raised by the first assignment of error may be briefly stated thus: "Has the State the right to tax directly or indirectly, the *privilege of vending*, granted in a patent to the assignee of a patentee?" It is evident that the said statute does not tax *eo nomine* the privilege granted under a patent. Yet it is equally clear that the statute does in effect and in fact reach and tax the said privilege. It is in truth just such a statute as called forth the remark of Chief Justice MARSHALL, in *Brown v. Maryland*, 12 Wheat. 444, that "It is impossible to conceal from ourselves that this is varying the form without varying the substance. It is treating a prohibition, which is general, as if it were confined to a particular mode of doing the forbidden thing."

Such language implies that if a State has not the right to tax an article, or a species of property directly, it cannot have the power to thus burden it indirectly. And it truth this court has already decided that the question of the constitutionality of a State law cannot, in a case like this, depend upon the *manner* of the imposition. It must depend upon the *power* of the State over the subject matter. *Bk. of Com. v. N. Y. City*, 2 Black 630. That decision nar-

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rows the question to the right of the State to impose the tax directly. And there is not lacking upon this latter question decisions of this court, that, if not expressly conclusive of it, at least by implication determine it. *McCullough v. Maryland*, 4 Wheat. 429 ; *Weston v. City Council of Charleston*, 2 Pet. 467.

Examined in the light of this test, the right of the State to impose the tax depends upon whether the "privilege of vending" is one of the subjects which exists by the State authority, or "is introduced by its permission." As to the said privilege existing by the authority of the State of Virginia, it is sufficient to say that that State does not assume to grant patents. This being true, she could only derive her power over that subject from the common law. This court decided that a State has no such right at common law. *Gayler v. Wilder*, 10 How. 494 [5 Am. & Eng. 188.] The constitution and law, taken together, give to the inventor, from the moment of invention, an inchoate property therein, which is completed by suing out a patent." *Evans v. Jordan*, 1 Brock. 252. Or, as elsewhere expressed, "certainly the right of the patentee springs wholly from the general government." 3 Comst. 18.

We have been obliged to discuss the question, here involved, by the light of the decisions of this court upon similar and kindred subjects ; for it has never been directly before the court except in two cases. In *Gibbons v. Ogden*, 9 Wheat. 1 ; and *Patterson v. Kentucky*, 97 U. S. 501 [12 Am. & Eng. 106.] But in neither of these cases was the decision of this question necessary, nor was a decision of it made in either case.

But in several of the State courts questions have arisen as to the right of the States to impose conditions upon the sales of privileges granted in patents. In these cases it was held that, "The property in inventions exists by virtue of the laws of Congress, and no State has the right to interfere with its enjoyment, or to annex conditions to the grant. If the patentee complies with the law of Congress on the sub-

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ject, he has a right to go into the open market, anywhere within the United States, and sell his property. If this were not so, it is easy to see that a State could impose terms which would result in a prohibition of the sale of this species of property within its borders, and in this way nullify the laws of Congress, and destroy the power conferred upon Congress by the Constitution. *Helm v. First Nat. Bk. of Huntington*, 43 Ind. 167; *Hollida & Ball v. Hunt*, 70 Ill. 113; *Crittenden v. White*, 23 Minn. 25; *Cranson v. Smith*, 37 Mich. 309; *Grover & Baker S. M. Co. v. Butler*, 53 Ind. 459.

These cases but adopted the decision and language of Judge Davis, in *ex parte Robinson*, 2 Biss. 309.

The court in *Bloomer v. McQuewan*, 14 How. 549 [5 Am. & Eng. 434,] says, "When the machine passes to the hands of the purchaser, it is no longer within the limits of the monopoly. It passes outside of it, and is no longer under the protection of the act of Congress. The implement or machine becomes his private, individual property, not protected by the laws of the United States, but by the laws of the State in which it is situated. Like other individual property, it is *then* subject to State taxation." See also *Chaffee v. Boston Belting Co.*, 22 How. 223 [7 Am. & Eng. 60;] *May v. Chaffee*, 2 Dill. 389; *Mitchell v. Hawley*, 16 Wall. 548 [9 Am. & Eng. 51;] *Adams v. Burks*, 17 Wall. 456 [9 Am. & Eng. 67.] Does not such language plainly negative the idea that the privilege of "making, using, and vending the said invention or discovery" by the patentee is liable to State taxation?

Mr. James G. Field, Attorney-General of Virginia, contra:

The agent, Webber, it will be conceded, I suppose, could exercise only such rights as his principal had as a regularly licensed merchant in Virginia. Section 6 of Chapter 34 of the code of Virginia, edition of 1873, p. 321, is as follows: "Every license granting authority to engage in or exercise

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any business, employment, or profession, unless expressly authorized elsewhere or otherwise, shall designate the place of such business, employment, or profession, at some specified house or other definite place within the district of the assessor or commissioner granting it. Engaging in or exercising any such licensed business, employment, or profession elsewhere than at such house or definite place, unless expressly authorized elsewhere or otherwise by law, shall be held to be without a license. A license which does not specify such house or definite place where business, employment, or profession is limited thereto by law, shall be deemed void."

Under their license the Singer Mnfg. Co. had the right, by itself or its agents, to conduct the business of merchants at No. 821 East Main street, Richmond, and also, having paid as much as \$100 tax to sell throughout the State, by itself or its agents, by sample, its goods and wares. These are all the rights the company had. These are all its agent, Webber, could exercise. Here was fair opportunity for inventive genius to reap all the rewards that the Constitution of the United States intended to secure for its encouragement. Webber was not content to confine his operations within these prescribed and first limits. The offence of which he was convicted lies outside of these.

The 45th section of the Revenue Laws of Virginia does not seek to deprive the inventor of the benefit of his patent. It makes no special reference to patented machines. The law is a general one, imposing a tax upon the agency business within the State.

Agents selling manufactured machines, whether patented or not, are required to be licensed, and by the 46th section this requirement is made of agents selling machines manufactured within the State, as the 45th section requires it of agents selling machines manufactured in other States. There is no discrimination in favor of the agent selling home manufactures and against the agent selling manufactures of other States.

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The plaintiff in error might have been indicted and convicted upon the facts of this case in the courts of Virginia as a pedlar without license. Then the case would have been exactly the case of the Machine Co. v. Gage, 100 U. S. 676. The principles enunciated in that case are, I think, conclusive of this.

Mr. Justice FIELD (*a*) delivered the opinion of the court:

In the county court, where the accused was tried, the only defence presented by his instructions was, that he was acting as the agent of the Singer Manufacturing Company, which had a license from the State as a resident merchant in Richmond to sell the machines, and also held a patent of the United States, authorizing it to manufacture and sell them anywhere in the United States. To this defence the answer is obvious. The license, being limited to the City of Richmond, gave no authority to the company to sell the machines elsewhere, and of course gave none to its agent. Besides, the question as to the extent of the territorial operation of the license depended upon the construction given by the Court of Appeals of the State to the statute, and its decision thereon is not open to review by us. And the right conferred by the patent laws of the United States to inventors to sell their inventions and discoveries does not take the tangible property, in which the invention or discovery may be exhibited or carried into effect, from the operation of the tax and license laws of the State. The combination of different materials so as to produce a new and valuable product or result, or to produce a well known product or result more rapidly or better than before, which constitutes the invention or discovery, cannot be forbidden by the State, nor can the sale of the article or machine produced be restricted, except as the production and sale of other articles, for the manufacture of which no invention or discovery is patented or claimed, may be forbidden or restricted.

103 U. S. 347.

(*a*) Otto inserts, "after stating the case."

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The patent for a dynamite powder does not prevent the State from prescribing the conditions of its manufacture, storage, and sale, so as to protect the community from the danger of explosion. A patent for the manufacture and sale of a deadly poison does not lessen the right of the State to control its handling and use. The legislation respecting the articles which the State may adopt after the patents have expired, it may equally adopt during their continuance. It is only the right to the invention or discovery—the incorporeal right—which the State cannot interfere with. Congress never intended that the patent laws should displace the police powers of the States, meaning by that term those powers by which the health, good order, peace, and general welfare of the community are promoted. Whatever rights are secured to inventors must be enjoyed in subordination to this general authority of the State over all property within its limits.

These views find support in the language of this court in *Patterson v. Kentucky*, 97 U. S. 501 [12 Am. & Eng. 106.] There a party was convicted of violating a statute of the State regulating the inspection and gauging of oils and fluids, the product of coal, petroleum, or other bituminous substances. The statute provided that such oils and fluids should be inspected by an authorized officer of the State before being used, sold, or offered for sale, and required the inspector to brand, according to the fact, casks and barrels of the oil with the words “standard oil,” or with the words “unsafe for illuminating purposes.” It imposed a penalty for selling or offering for sale in the State such oils and fluids as had been condemned. A particular oil, known as the Aurora oil, which had been thus condemned, was sold by the accused. A patent for the oil had been issued by the United States to a party who had assigned it to him, and in defence to the indictment he asserted the right under the patent, to sell the oil in any part of the United States, and that no State could, consistently with the Federal Con-

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stitution and the laws of Congress, prevent or obstruct its exercise. But the court held this construction of the Constitution and laws to be inadmissible, and that the right was to be exercised in subordination to the general powers which the several States possessed over their purely domestic affairs, whether of internal commerce or police. After some just observations upon the police powers of the State, their extent and object, and a reference to previous decisions, the court said, speaking through Mr. Justice HARLAN: "These considerations, gathered from the former decisions of this court, would seem to justify the conclusion that the right which the patentee or his assignee possesses in the property created by the application of a patented discovery, must be enjoyed subject to the complete and salutary power, with which the States have never parted, of so defining and regulating the sale and use of property within their respective limits as to afford protection to the many against the injurious conduct of the few. The right of property in the physical substance, which is the fruit of the discovery, is altogether distinct from the right in the discovery itself, just as the property in the instruments or plates by which copies of a map are multiplied is distinct from the copyright of the map itself." And again, the enjoyment of the right in the discovery "may be secured and protected by national authority against all interference; but the use of the tangible property which comes into existence by the application of the discovery is not beyond the control of State legislation simply because the patentee acquires a monopoly in his discovery."

In accordance with the views thus expressed, we can find no objection to the legislation of Virginia in requiring a license for the sale of the sewing-machines, by reason of the grant of letters patent for the invention."

There is, however, an objection to its legislation arising from its discriminating provisions against non-resident merchants and their agents, and this is presented by the instruc-

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tions given to the jury, at the request of the attorney of the Commonwealth.

The 45th section of the revenue law declares "That any person who shall sell or offer for sale the manufactured articles or machines of other States or Territories, unless he be the owner thereof, and taxed as a merchant, or take orders therefor, on commission or otherwise, shall be deemed to be an agent" for the sale of those articles, and shall not act as such without taking out a license therefor. A violation of this provision subjects the offender to a fine of not less than fifty dollars, nor more than one hundred dollars for each offence.

The 46th section fixes the license tax of the agent for the sale of such articles at twenty-five dollars. The license only gives him a right to sell in the county or corporation for which it is issued. If he sells, or offers to sell, in other counties or corporations, he must pay in each an additional tax of ten dollars. The section then declares that "All persons, other than resident manufacturers or their agents, selling articles manufactured in the State shall pay the specific license tax imposed by this section."

By these sections, read together, we have this result: the agent for the sale of articles manufactured in other States must first obtain a license to sell, for which he is required to pay a specific tax for each county in which he sells or offers to sell them; while the agent for the sale of articles manufactured in the State, if acting for the manufacturer, is not required to obtain a license or pay any license tax. Here there is a clear discrimination in favor of home manufacturers, and against the manufacturers of other States. Sales by manufacturers are chiefly effected through agents. A tax upon their agents when thus engaged is, therefore, a tax upon them, and if this is made to depend upon the foreign character of the articles, that is, upon their having been manufactured without the State, it is to that extent a regulation of commerce in the articles between the States. It

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matters not whether the tax be laid directly upon the articles sold or in the form of licenses for their sale. If by reason of their foreign character the State can impose a tax upon them, or upon the person through whom the sales are effected, the amount of the tax will be a matter resting in her discretion. She may place the tax at so high a figure as to exclude the introduction of the foreign article, and prevent competition with the home product. It was against legislation of this discriminating kind that the framers of the Constitution intended to guard, when they vested in Congress the power to regulate commerce among the several States.

In *Welton v. State of Missouri*, 91 U. S. 275, we expressed at length our views on the subject, and to our opinion we may refer for their statement. No one questions the general power of the State to require licenses for the various pursuits and occupations conducted within her limits, and to fix their amount as she may choose, and no one on this bench—certainly not the writer of this opinion—would wish to limit or qualify it in any respect, except when its exercise may impinge upon the just authority of the Federal Government under the Constitution, or the limitations prescribed by that instrument. But where a power is vested exclusively in that government, and its exercise is essential to the perfect freedom of commercial intercourse between the several States, any interfering action by them must give way. This was stipulated in the indissoluble covenant by which we became one people.

In a recent case we had occasion to consider at some length the extent of the commercial power vested in Congress, and how far it is to be deemed exclusive of State authority. Referring to the great variety of subjects upon which Congress, under that power, can act, we said that “Some of them are national in their character, and admit and require uniformity of regulation, affecting alike all the States; others are local, or are mere aids to commerce, and can only

Notes and citations.

be properly regulated by provisions adapted to their special circumstances and localities. Of the former class may be mentioned all that portion of commerce with foreign countries or between the States, which consists in the transportation, purchase, sale and exchange of commodities. Here there can, of necessity, be only one system or plan of regulations, and that Congress alone can prescribe. Its non-action in such cases, with respect to any particular commodity or mode of transportation, is a declaration of its purpose, that the commerce in that commodity or by that means of transportation shall be free. There would otherwise be no security against conflicting regulations of different States, each discriminating in favor of its own products and citizens and against the products and citizens of other States." *County of Mobile v. Kimball*, 102 U. S. 691.

Commerce among the States in any commodity can only be free when the commodity is exempted from all discriminating regulations and burdens, imposed by local authority, by reason of its foreign growth or manufacture.

The judgment of the Supreme Court of Appeals of Virginia must, therefore, be reversed, and the cause remanded to it for further proceedings in accordance with this opinion, and it is so ordered.

103 U. S. 351.

Notes :

2. Police powers of State over patents :

Patterson v. Kentucky, 97 U. S. 50 [12 Am. & Eng. 106.]

Cited :

IN SUPREME COURT IN :

Western Union Tel. Co. v. Texas, 1882. 105 U. S. 460 ; Bk. 26 L. ed. 1067.

Notes and citations.

Walling *v.* Michigan, 1884. 116 U. S. 446 ; Bk. 29 L. ed. 691.

IN CIRCUIT COURTS IN:

In re Watson, 1882. 15 Fed. Rep. 511.

Railroad Tax Case, 1882. 8 Sawyer, 238 ; 13 Fed. Rep. 722.

Ex parte Thornton, 1882. 4 Hughes, 220 ; 12 Fed. Rep. 538.

In re Brosnahan, June, 1883. 4 McC. 1 ; 18 Fed. Rep. 62.

United States *v.* American Bell Telephone Co., November, 1886.
29 Fed. Rep. 17.

Kohn *v.* Melchior, 1887. 29 Fed. Rep. 433.

IN STATE COURTS IN:

Palmer *v.* State, January, 1883. 48 Amer. Rep. 429.

Hockett *v.* State, February, 1886. 5 N. East Rep. 178 ; 105 Ind.
Rep. 250.

IN TEXT-BOOKS:

2 Abb. Pat. Laws, 1886, pp. 9, 129.

Walker on Pats., 1883, p. 106.

[illegible]

Syllabus.

WILLIAM WICKE, APPELLANT, v. HENRY P. OSTRUM.*

103 (13 Otto) U. S. 461-470. Oct. Term, 1880.

[Bk. 26, L. ed. 409; 19 O. G. 867.]

Argued December 21, 1880. Decided February 28, 1881.

Particular patent construed. Combination. Infringement. Omission of element of combination. First in state of art—limited construction of patent. Construction of combination claims.

1. Letters patent, No. 38,924, G. Wicke, June 16, 1863, Machines for nailing Boxes, construed to be for a new combination of old elements. The 4th and 5th combination claims *held*, not infringed by the device in letters patent, No. 172,579, H. P. Ostrum, January 25, 1876, Machines for nailing Boxes, in which two of the elements of the combination claimed are dispensed with, and no mechanical equivalent is substituted for them. (p. 128.)
2. The inventor of a novel combination of old elements is entitled to the benefit of all the mechanical equivalents of his several elements, known at the time of his invention, if used in the same combination. (p. 130.)
3. Where the inventor was the first to put into practical use the idea of driving more than one nail at the same time in the manufacture of boxes by machinery, it was *held*, that by his patent he appropriated to himself only so much of the field of invention which his idea embraced as was covered by the machine described in his specification and claimed in his application. (p. 130.)
4. When the arrangement of the machine was such that the combination of all its several elements or their mechanical equivalent was necessary to its successful operation, *held*, that the claims to a limited number of these elements should fairly be construed to include the rest. (p. 131.)

Appeal from the Circuit Court of the United States for the Southern District of New York.

*See Explanation of Notes, page III.

Statement of the case.

The case is fully stated by the court.

The following are the letters patent referred to in the opinion of the court:

GEORGE WICKE, OF NEW YORK, N. Y.

MACHINE FOR NAILING BOXES.

Specification forming part of Letters Patent, No. 38,924, dated June 16, 1863.

To all whom it may concern:

Be it known that I, George Wicke, of the city, county, and State of New York, have invented a new and Improved Machine for Nailing Boxes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a sectional side elevation of my invention. Fig. 2 is a front elevation of the same.

Similar letters of reference in both views indicate corresponding parts.

The object of this invention is to drive the nails which hold together the several boards constituting a box for cigars or for other articles. The nails are generally driven by a hammer, each nail for itself, which, obviously, is a very tedious operation.

This invention consists in the employment of grooved spring-jaws for the purpose of holding the nails and to guide them to the proper place; and it consists, further, in combining with said spring-jaws a corresponding number of rising and falling plungers for the purpose of driving each nail singly, and all at the same time; and, also, in arranging said plungers with globe or disk-shaped collars in such a manner that they spread the grooved spring-jaws at the proper moment, and allow the heads of the nails to pass;

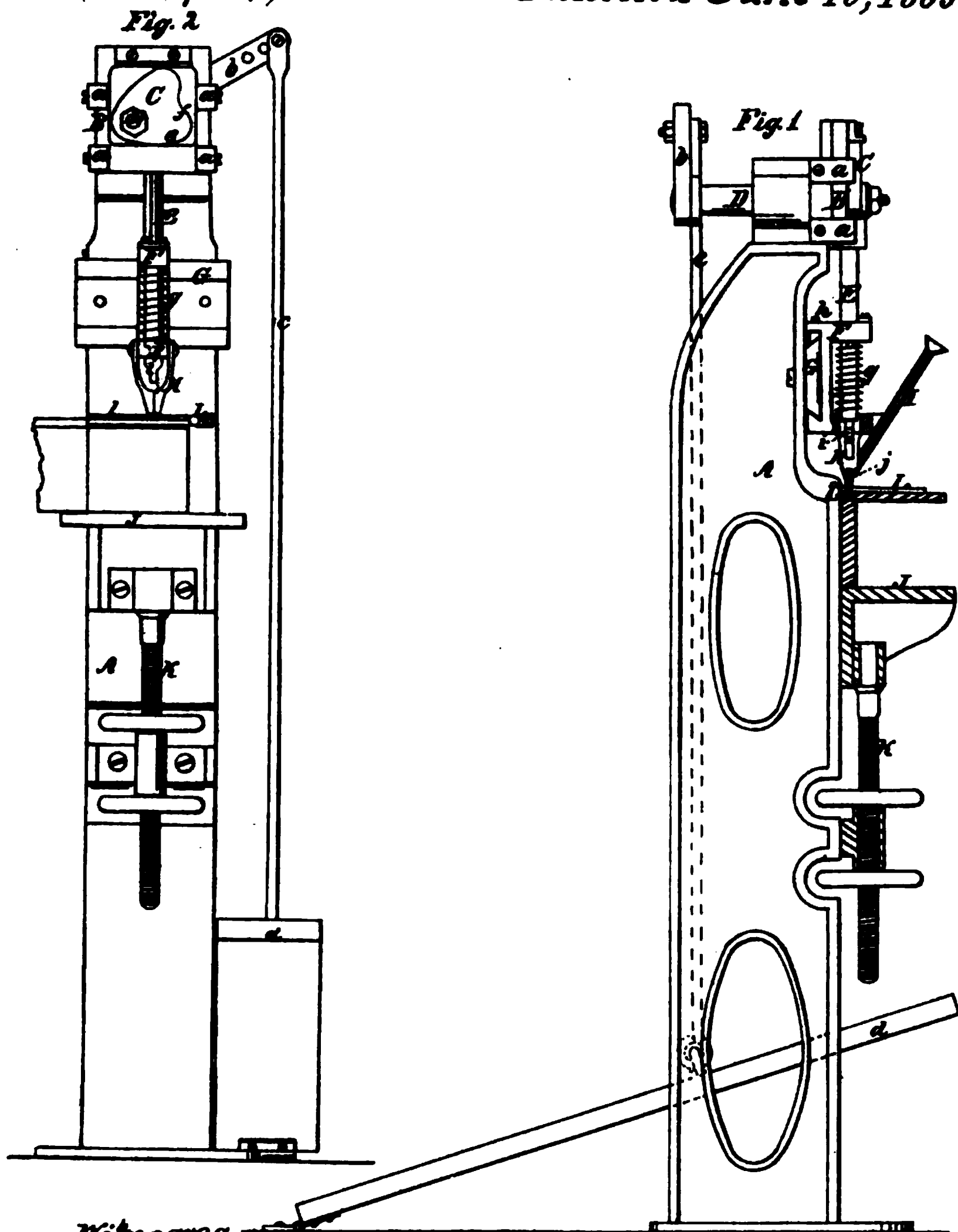
Statement of the case.

also, in arranging the cam that serves to depress the plungers with a circular portion in such a manner that the plunger cannot be depressed any farther than necessary to drive the nails; finally, in the general arrangement and combination of all the parts, so that the plungers and jaws, as well as the table which supports the boards, can be adjusted according to the different sizes of boxes to be made.

To enable others skilled in the art to make and use my invention, I will proceed to describe it.

A represents a frame of cast-iron or of any other suitable material. Secured to the upper part of this frame by means of angular guide-pieces, *a*, is the rising-and-falling gate, B, which is operated by means of a cam, C, on the end of a shaft, D, which connects by an arm, *b*, and rod, *c*, with a treadle, *d*. The cam, C, on being turned in the direction of the arrow marked on it in Fig. 2, depresses the gate, B, until the circular portion, *e f*, bears upon the gate. This portion of the cam is made to form part of a circle described from the center of shaft, D, so that the cam may be turned more or less without depressing the gate, B, any farther than desirable. The gate, B, acts on one or more plungers, E, each of which moves up and down in a carriage, F, and a spring, *g*, has the tendency to raise the plunger after the same has been depressed or to keep it up when not exposed to the action of any power. The carriage, F, slides in a lateral direction on ways, G, and it is adjusted at the proper point, where the nail is to be driven, by set-screws, *h*. A series of plungers to correspond to the number of nails to be driven simultaneously may be so arranged that by depressing the treadle all the plungers are depressed, and consequently all the nails inserted at the same time. The lower end of the plunger, E, is turned down, as clearly shown in the drawings, leaving them just large enough to cover the heads of the nails to be driven, and a disk-shaped collar, *i*, is formed at a short distance above these lower ends. When depressed, the plunger enters the spring-jaws, H, which are secured to the sides of the carriage, F. These

G. Wicke,
Machine for Nailing Boxes,
No 38,924,
Patented June 16, 1863.



Witnesses
Scott Reed
W. S. Partridge

Inventor
G. Wicke

Statement of the case.

jaws are provided with grooves, *j*, to receive the nails, (see Fig. 1,) and they are so formed that when the plunger descends the disk-shaped collar, *i*, spreads the same, allowing the head of the nail to pass freely through the grooves, *j*. The nails are fed through an inclined tubular channel, *I*, one after the other, and if several plungers are used the whole series are depressed by one motion of the cam, *C*. A table, *J*, on the lower portion of the frame, *A*, serves to support the boards to be nailed, and this table is adjustable by means of a screw-spindle, *K*. Said boards are adjusted in the correct position by a slide, *L*, which is adjustable in a groove, *l*. A small recess in the frame, *A*, allows the horizontal boards to project very little beyond the edge of the vertical board, so that the rough edges of the boards can be removed by the aid of a plane after the nailing has been accomplished. The table, *J*, the slide, *L*, and the plunger or plungers can thus be adjusted to suit boxes of different size, and the nails are driven simultaneously by one motion of the foot.

What I claim as new, and desire to secure by Letters Patent, is—

1. The employment of the grooved spring-jaws, *H*, substantially as described, for the purpose of receiving the nails and to guide them to their proper places.

2. The combination, with the spring-jaws, *H*, of the rising-and-falling plunger, *E*, constructed and operating substantially as and for the purpose described.

3. Arranging the plunger, *E*, with a disk-shaped collar, *i*, or its equivalent, to operate in combination with the spring-jaws, *H*, substantially as and for the purpose specified.

4. The arrangement of the circular portion, *ef*, on the cam, *C*, to operate in combination with the gate, *B*, and treadle, *d*, substantially as and for the purpose set forth.

5. The arrangement and combination of one or more adjustable carriages, *F*, table, *J*, and slide, *L*, constructed and

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operating in the manner and for the purpose substantially as specified.

GEORGE WICKE.

Witnesses :

GEO. W. REED,
M. S. PARTRIDGE.

HENRY P. OSTRUM, OF NEW HAVEN, CONNEC-
TICUT.

IMPROVEMENT IN MACHINES FOR NAILING BOXES.

Specification forming part of Letters Patent, No. 172,579, dated
January 25, 1876 ; application filed September 11, 1875.

To all whom it may concern :

Be it known that I, Henry P. Ostrum, of the city and county of New Haven, and State of Connecticut, have invented an Improvement in Machines for Nailing Boxes ; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use it, reference being had to the accompanying drawing, forming a part of this specification, in which—

Figure 1 is a direct end view or elevation of the end of the machine. Fig. 2 is a perspective view of the machine.

My invention relates to that class of machines which are used for nailing together the sides and ends of boxes, in which any required number of nails may be simultaneously driven by a treadle or other means ; and consists in a novel construction and arrangement of parts, hereinafter more fully set forth and claimed.

The letter A, Fig. 2, indicates a platform of cast-iron, having projections on its under side, in which the rod, *y*, screws, *p p*, and rock-shaft, G, turn, and on which the ratchets, *o o*, move back and forth. This platform, with the

H. P. OSTRUM.

MACHINE FOR NAILING BOXES.

No. 172,579.

Patented Jan. 25, 1876.

Fig. 1.

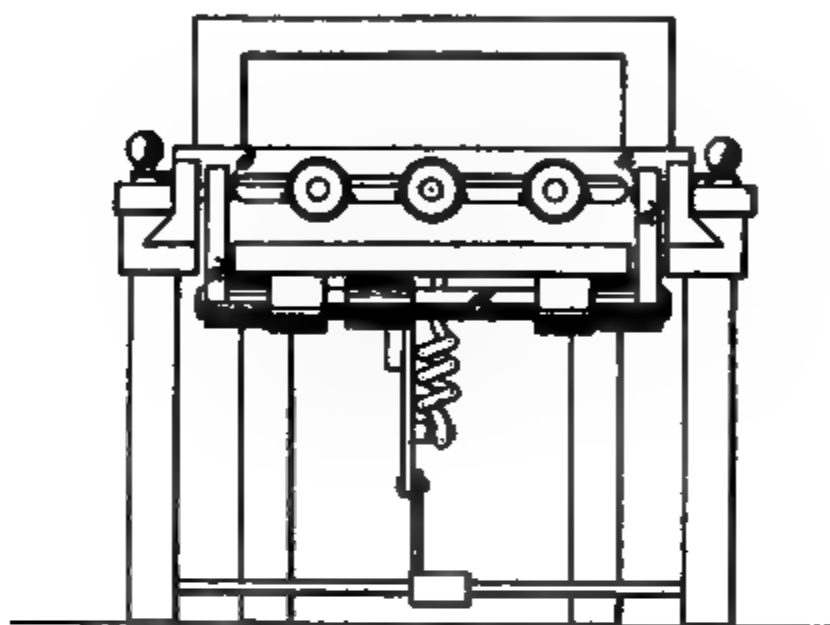


Fig. 2.

Witness...

Wm. Mathew
E. P. Quinn

Inventor
Henry P. Ostrum
by *Attorney*
Geo. D. Perry.

Statement of the case.

legs attached, constitutes the frame of the machine. The rest, B, is a straight bar of metal extending across and beyond the platform, A, and has pins, *x x*, passing through holes in the same, which are forced down upon the ratchets, *o o*, by springs attached to the rest. It is also provided with the guides, *i i*, which slide between the side edges of the platform and the ratchets, *o o*. The ratchets, *o o*, are straight bars of iron with notches on their upper sides, and are movable back and forth on the projections from the under side of the platform, and extending beyond it. Each of these ratchets has a nut attached to it, in which the screws, *p p*, turn, and by which the ratchets are moved. Only one of these screws is shown in the drawing. In the front projection from the under side of the platform are two screws or threaded bolts, *p p*, Fig. 2, which turn in the projection and in the nuts attached to the ratchets, and have a bevel-gear wheel attached, by which they are turned. The shaft, *y*, is also made to turn in the projections from the under side of the platform, and is furnished with two bevel-gear wheels, which mesh in the bevel-gear wheels on the screws, *p p*, and is also furnished with a crank on one of its ends. The elevated straight bar, *r*, supported on two parts attached to the platform, is arranged so that its front side and the front ends of the dies, *m m m*, are in the same plane, and serves to hold one of the pieces to be nailed at right angles to the other piece resting on the platform. The dies, *m m m*, vary in number with the nails to be driven, are made with slots on their upper sides, which are enlarged at their ends nearest the hammers to correspond with the size of the heads of the nails placed in them, and to allow the nails to lie parallel with the platform, or nearly so, and are fitted into the dovetailed slot in the platform. They are loosely held in their places by the hammers, and may be, when desired, securely held by a wedge in the dovetailed slot, moved by a screw on its outer end. The head, *a*, is a bar of cast metal, extends across the platform, and has on its ends enlargements or cross-pieces which slide on the platform. It

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is held in its place by the pieces, *ff*, screwed to the platform, and has a slot in which the hammers are held, and a pin, *e*, in each of the enlargements or cross-pieces which fit in the slots in the short arms, *dd*, of the rock-shaft, *G*, by which the head is moved back and forth. The hammers, *nn*, vary also in number with the nails to be driven, and are in the form of a threaded bolt with a head, from the front ends of which small rods, a little larger than the nails to be driven, project into the enlarged ends of the slots in the dies. They are provided with nuts, by which they are held in the head, *a*, and by which they may be adjusted at any distance apart. The rock-shaft, *G*, arranged under the platform, is made to turn in projections from the platform, and with a long arm, *E*, extending nearly to the front side of the machine; also with two short upright arms, *dd*, having slots in their ends. A spiral spring extends from the long arm, and is attached to the under side of the platform and draws the arm upward, while the short arms move the head, *a*, backward. The treadle, *D*, is a part of, or is attached to, a bar extending to a shaft pivoted to two of the legs of the frame, or is otherwise suitably constructed. It is also suitably connected to the long arm of the rock-shaft, *c*.

With the above description of the parts of my machine its operation will be readily understood. As the pieces to be nailed together are placed, the one perpendicularly against the front ends of the dies, *mmm*, and against the elevated bar, *a*, and the other on the platform against the first, and as the rest, *B*, is adjusted against it by the pins, *xx*, operating on the ratchets, *oo*, as pawls, the pieces are then screwed together between the dies, *mmm*, and the rest, *B*, by turning the rod, *y*, geared to the screws, *pp*, moving the ratchets, *oo*, and the rest, *B*. The frame, *A*, the dies, *mmm*, and the rest, *B*, adjusted by the pins, *xx*, acting on the ratchets, *oo*, and moved by the screws, *pp*, coöperate to tightly hold the pieces to be nailed. The pieces being thus held, as the treadle, *D*, is forced downward the head, *a*, with the hammers, *nnn*, is forced forward, driving the nails

Argument of counsel.

placed in the slots in the dies, *m m m*, to their places, nailing the two pieces together.

I am aware of the patent granted to M. Blaser, No. 155,284, September 22, 1874, and hereby disclaim the same.

I claim as my invention—

The combination of frame, A, treadle, D, rock-shaft, G, head, *a*, provided with one or more adjustable hammers, *n n*, one or more adjustable dies, *m m*, and the rest, B, all the said parts constructed and combined substantially as set forth.

HENRY P. OSTRUM.

Witnesses:

GEORGE TERRY,

ROGER M. SHEMAN.

Mr. Arthur v. Briesen, for appellant:

It is clear that as far as the second claim is concerned, it must receive a construction which will cover the combination of the spring-jaws, *or their equivalents*, with the plungers, and it is for the court here to decide whether or not the defendant has placed equivalents of the spring-jaws into his machine. If he has, then the decree rendered by the court below must be reversed.

A mere matter-of-fact comparison of the two devices in controversy seems to leave no doubt but that the mere taking away of one of the halves of each jaw leaves on the machine that which was known at the time of the patent as capable of taking the place of the whole double jaw. Or, in other words, if we take the complainant's machine, and place it in a horizontal position, we see at once, that the upper half of the spring-jaw may now be omitted or taken away. The lower half now does all the service needed, assisted by the gravity of the nail. The pressure in the one case is produced by a spring, and in the other case by gravity, and as the court held in *Imhaeuser v. Buerk*, 101 U. S. 655 [12 Am. & Eng. 443] on this very point, where pressure is produced by a

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spring in one machine, and by a weight in another machine. *one is the mechanical equivalent of the other.*

As to the application of the rule of equivalents to the present cause, the following decisions are referred to: *Burr v. Duryee*, 1 Wall. 531 [7 Am. & Eng. 224;] *Seymour v. Osborne*, 11 Wall. 516 [8 Am. & Eng. 290;] *Gould v. Rees*, 15 Wall. 187 [9 Am. & Eng. 39;] *Ives v. Hamilton*, 92 U. S. 426 [10 Am. & Eng. 405.] This last mentioned case also disposes of the question raised by the change of position into which the defendant has put his machine as compared with the complainant's machine. *The Corn-Planter Patent*, 23 Wall. 181 [9 Am. & Eng. 1;] *Mason v. Graham*, 23 Wall. 261 [10 Am. & Eng. 107.] In the latter case the defence also sought to limit the foundation patent to a specific form of devices which were shown in that patent, but was properly overruled.

The only novel feature in the Ostrum machine is the horizontal position of it, which, as has already been shown, is not an advantage, is a mere avoidance of the narrowest possible construction of the claims of complainant's patent. Every one, as this court has held, has the right to evade a patent, but no one has a right to invade upon the privilege of a patentee. *Burr v. Duryee*, 1 Wall. 531 [7 Am. & Eng. 224.]

Messrs. William T. Birdsall and N. A. Calkins, for appellants:

It only requires a casual examination of the two machines in controversy, to learn that their mode of operation is entirely different. And it is equally manifest that the several devices employed in the respective machines are wholly unlike.

The mode of operation of complainant's and defendant's machines in regard to the holding and guiding the nail are entirely different, and there is an equally important difference in the result produced.

The complainant's attempt to make out an infringement

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lies in the single proposition that the dies in the defendant's machine are simply one-half of the spring-jaws of complainant's patent placed in a horizontal position; whereas, the fact as clearly shown, is that the dies are in no manner like the spring-jaws, and do not in the least resemble them in shape, appearance, mode of operation, or the result produced; the dies have a different shaped groove from the spring-jaws; will not perform the functions of the spring-jaws, neither will the spring-jaws perform the functions of the dies.

The dies cannot be construed to be the mechanical equivalent of the spring-jaws in any sense nor under any interpretation of that term. "A new combination, if it produce new and useful results, is patentable, though all the constituents of the combination were well known and in common use before the combination was made."

"But the result must be a product of the combination, and not a mere aggregate of several results, each the complete product of one of the combined elements."

"Combined results are not necessarily novel results, nor are they an old result obtained in a new and improved manner."

Hailes v. Van Wormer, 20 Wall. 353 [9 Am. & Eng. 340.]

"It is the instrumentality, contrivance, or machinery through the agency of which results are effected, and not the results or purpose which are the subject of a patent." *In re Merrill*, 1 McA. 301; *Wooster v. Calhoun*, 11 Blatch. 215.

"The use of one of three distinct devices in a patent for a mere combination of such devices is not an infringement if there is a substantial difference between the two machines." *Rich v. Close*, 8 Blatch. 41.

"Where a patent is taken for a combination of parts, no one of which is claimed as new, there is no violation of the patent *unless the parts are all employed in the same combination.*"

Prouty v. Ruggles, 16 Pet. 336 [4 Am. & Eng. 351;] *Eames*

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v. Godfrey, 1 Wall. 78 [7 Am. & Eng. 158 ;] *Prouty v. Draper*, 1 Story, 568 ; *Brooks v. Jenkins*, 3 McLean, 432 ; *Brooks v. Bicknell*, 4 McLean, 70 ; *McCormick v. Manny*, 6 McLean, 539.

Mr. Chief Justice WAITE delivered the opinion of the court :

The patent sued on in this case is for a machine for nailing boxes, invented by George Wicke. Before this invention nails were driven singly and by hand. By the machine more than one could be driven at the same time.

In the description of the invention which accompanied the application for the patent, the inventor said, in effect, that it consisted in the employment of grooved spring-jaws for the purpose of holding the nails and guiding them to their places, combined with a corresponding number of rising and falling plungers for driving each nail singly and at the same time. The plungers were made with globe or disk-shaped collars, so adjusted or arranged that they would spread the spring-jaws at the proper moment to allow the heads of the nails to pass. To depress the plungers, he arranged a cam, so formed and fitted as to have spent its force when the nail was driven to its place. "Finally," he said his invention consisted "in the general arrangement and combination of all its parts, so that the plungers and jaws, as well as the table which supports the boards, can be adjusted according to the different sizes of the boxes to be nailed." (a) He then described the construction of the different parts of the machine and the manner of its operation, from which, and the drawings and models, it appears that the machine was an upright one, by means of which the nails were to be driven vertically.

With such a machine the nails must necessarily be held in place by some mechanical device until they were guided to and fastened in the board. A nail implies a head larger

103 U. S. 467-468.

(a) Otto substitutes for "nailed" "made."

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than its point and, if it is to be driven vertically, some provision must be made for directing the point carefully to its proper place, and then letting the head pass without obstruction as it is driven. Such clearly was the office of the "grooved spring-jaws" and the "globe or disk-shaped collars" of the plungers in this machine.

(b) Having described his invention, the inventor stated what he claimed as new, and desired to secure by his letters patent, as follows :

"1. The employment of the grooved spring-jaws, H, substantially as described, for the purpose of receiving the nails and to guide them to their proper places.

"2. The combination with the spring-jaws, H, of the rising-and-falling plungers, E, constructed and operating substantially as and for the purpose described.

"3. Arranging the plunger, E, with a disk-shaped collar, *i*, or its equivalent, to operate in combination with the spring-jaws, H, substantially as and for the purpose specified.

"4. The arrangement of the circular portion, *e f*, on the cam, C, to operate in combination with the gate, B, and treadle, *d*, substantially as and for the purpose set forth.

"5. The arrangement and combination of one or more adjustable carriages, F, table, J, and slide, L, constructed and operating in the manner and for the purpose substantially as specified." (c)

To make this claim intelligible it must be read in connection with the specifications to which it relates, and in this way it becomes apparent that the object of the inventor was to secure a patent for a new combination of old elements. Grooved spring-jaws were confessedly very old. So were rods of iron with curvilinear projections, like those called plungers, and cams, of almost any shape, and treadles, and levers, and adjustable carriages, tables, and slides. The use of these things separately could not be patented. But the combination of them so as to produce a machine useful

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for driving nails was new. This the inventor might claim, and so far as anything appears, he was entitled to a patent for the employment of spring-jaws in the combination and for the purpose, described in his specifications ; for the combination of his peculiarly shaped plungers with spring-jaws for the purposes of such a machine ; for the use of the cam he described in combination with the gate and treadle to drive his machine, and for the adjustable carriage, table, and slide when used on such a machine as his. He was entitled also to the benefit of all the mechanical equivalents of his several elements, known at the time of his invention, if used in the same combination.

As has already been seen, Wicke made an upright machine. For such a machine the combination of all his several elements was necessary. If any one, or its mechanical equivalent, was left out, an upright machine like his could not be operated successfully. A combination of other elements, not the equivalents of his, would be a different machine and, consequently, not an infringement. From the evidence, it is clear he was the first to put into practical use the idea of driving more than one nail at the same time in the manufacture of boxes by the use of machinery. The idea he could not patent, but his contrivance to make it practically useful he could. By his patent he appropriated to himself only so much of the field of invention which his idea embraced, (*d*) as the machine he described in his specification and claimed in his application covered. (*e*)

The defendant conceived the idea of driving nails horizontally instead of vertically, and made a machine for that purpose, which he patented. He does not use the spring-jaws or the peculiar shaped plungers of the Wicke machine, because he does not need them. As his object is to drive the nails horizontally, they can be laid in a groove and held there by gravity until forced into the board. Having no spring-jaws to be opened, he need not shape his plunger or

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driver so as to effect that object. He thus has been enabled to dispense with two elements of Wicke's combination, in the absence of which that machine could not be successfully worked. Neither has he substituted any mechanical equivalent for what he has thus put aside. By changing the form of the machine and the manner of its operation, he has no need of any such contrivances. He may use the equivalent of one-half of the spring-jaw of Wicke's machine, but the other half he does not want, nor anything else in its place, as the nail will lie where it is put until driven into the board. He accomplishes by natural causes what Wicke required a mechanical contrivance to do. His machine will not do the work of Wicke's, that is to say, drive a nail vertically, nor will Wicke's do that of his, and drive horizontally. The truth is, the two machines are entirely unlike, and while they both drive more nails than one at the same time, they do it in different ways. That of Wicke, operating vertically, requires all the elements of his combination, while that of the defendant, doing its work in another way, is made by leaving out two elements which are indispensable to Wicke.

The fair construction of the fourth and fifth claims is that they are for the combination of the cam, gate, and treadle, or the adjustable carriage, table, and slide, with the elements of the other claims. It is possible that if there had been nothing more done by the defendants than to put into the machine of Wicke his rock-shaft and attachments in the place of the cam, the shaft would be considered as the equivalent of that element in Wicke's device. So, too, the bed, slides, and gauges of the defendant's machine, if used in that of Wicke, might be considered the same in effect as the adjustable carriage, table, and slide which he contrived. But these contrivances of the defendant are not used in combination with any of the other devices of Wicke and, therefore, they do not infringe his claims.

On the whole, we are clearly of the opinion that the court

Notes and citations.

below was right in holding, as it did, that no infringement had been proven. The decree is, consequently, affirmed.

103 U. S. 470.

Patent in suit:

No. 38,924. Wicke, G. June 16, 1863. Box Nailing Machine.

OTHER SUITS ON SAME PATENT.

Wicke v. Kleinknecht, 1874. 1 Ban. & Ard. 608; 7 O. G. 1098.

Cited:**IN CIRCUIT COURTS IN:**

Morley Sewing Machine Co. v. Lancaster, March, 1885. 23 Fed. Rep. 344.

IN TEXT-BOOKS:

Merwin on Pat. Invt., 1883, p. 482.

Oct., 1880.]

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Syllabus.

REED PECK, Administrator of GEORGE W. PECK, Deceased, PLAINTIFF IN ERROR, v. TRUMAN D. COLLINS.*

103 (13 Otto) U. S. 660-665. Oct. Term, 1880.

[Bk. 26, L. ed. 512; 19 O. G. 1137.]

Argued December 20, 1880. Decided April 11, 1881.

Particular patent construed. Effect of interference and decision thereon. Surrender in order to reissue. Reissue. Surrender of patent. Act 1870, Sec. 53.

1. *Held*, that upon a surrender of letters patent, No. 50,614, B. Mudge, October 24, 1865, Sinking Wells, for reissue, an interference declared thereon, a decision against the patentee and subsequent refusal of a reissue, the patent became destitute of validity and absolutely void. (p. 142.)
2. If a reissue is granted, patentee has no rights, except such as grow out of the reissued patent. He has none under the original. That is extinguished. And although for the purpose of fixing a date to the title in a question of priority, and of limiting the period for which the patent is to run, the date of the original patent is important; no damages can be recovered for any acts of infringement committed prior to the reissue. (p. 143.)
3. Under the law as it stood in 1866, a patent surrendered for reissue was canceled in law as well when the application was rejected as when it was granted. The patentee was in the same circumstances as he would have been if his original application for a patent had been rejected. The surrender of a patent was an abandonment of it, and an applicant for reissue took upon himself the risk of getting a reissue or of losing all. The question of his right to any patent at all was opened anew as upon an original application for a patent. (p. 143.)
4. Whatever may have been the effect of the new clause in Sec. 53, introduced in the law by the act of July 8, 1870, and retained in R. S., Sec. 4916, that "the surrender shall take effect

* See Explanation of Notes, page III.

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upon the issue of the amended patent " in cases where a reissue is refused for other reasons, it would still seem that if the patentee's title to the invention is disputed and adjudged against him that the effect of such a decision should be as fatal to his original patent as to his right to a reissue. (p. 144.)

[Citations in the opinion of the court:]

Moffitt v. Garr, 1 Black, 273 [7 Am. & Eng. 111.] p. 142.

In error to the Court of Appeals of the State of New York.
The case is fully stated by the court.

Messrs. Alexander D. Wales and W. E. Lansing, for plaintiff in error :

In Whitman's Patent Laws, p. 580, the law is laid down as follows: "*Surrender does not take effect until the reissue is granted.* No surrender is made until the reissue is granted. Until the reissue is actually issued from the office the original patent remains uncanceled. It is usually deposited in the office with the application as a guaranty that the application is made in good faith and that if the office is willing to grant the new patent, the old one shall be forthcoming. * * * *The uniform practice has been to return the original patent if a reissue be finally refused.* There can be no doubt of the right of an applicant for reissue to abandon his application at any time and to demand and receive his original patent. * * * It is obvious that if the surrender does not take effect and the patent remains uncanceled until the issue of the amended patent the continuity is not broken."

Whitey *ex parte*, Com. Dec., 1869, p. 72. "Prior to the reissue what is called a surrender is only a preliminary offer to that effect."

Forbes v. Barstow Stove Co., 2 Cliff. 379.

The oath of the applicant for reissue does not therefore affect the patent, and is merely formal.

"The surrender and reissue are reciprocal, forming together a single act, the one never occurring without the other."

Argument of counsel.

French v. Rogers, 1 Fish. 133 ; Law's Dig. p. 614, § 29.

"The surrender and reissue, no matter how often they recur are reciprocal, each in consideration of the other, and form together but a single act." Woodworth v. Hall, 1 Wood. & M. 261 ; Woodworth v. Edwards, 3 Wood. & M. 127 ; Woodworth v. Stone, 1 Wood. & M. 248.

The act of 1870, § 53, Chap. 230, a revision of former laws, merely affirms the propriety of the old law when it declares that the surrender shall not take effect until the reissue is granted, for the rest of the section is in substantially the same language as § 13, of 1836. The Commissioner of Patents *in granting patents* acts as a quasi-judicial officer. Wilson v. Barnum, 1 Wall. Jr. 340 ; Law's Dig. 151, § 21.

The courts and text writers invariably speak of surrender and reissue as concurrent and inseparable acts.

Seymour v. Osborne, 11 Wall. 516 [8 Am. & Eng. 290 ;] Curtis on Pats. 365, § 285, § 282 b. ; O'Reilly v. Morse, 15 How. 112 [5 Am. & Eng. 483 ;] Wilson v. Rousseau, 4 How. 688 [4 Am. & Eng. 436 ;] Law's Dig. 612, § 10.

Hardly an important and complicated patent has been granted upon which there has not been a subsequent application for a reissue. Parties sometimes apply for reissue upon patents which have been declared valid by the courts. The validity of the famous Woodworth patent had been established in Massachusetts and Ohio, (see Brooks v. Bicknell, 3 McLean, 250 ; Woodworth v. Sherman, 3 Story, 171 ; Washburn v. Gould, 3 Story, 122,) and yet the patent was afterward reissued. Woodworth v. Stone, 3 Story, 751 . Woodworth v. Edwards, 3 Wood. & M. 136.

Is it possible that the applicant for reissue upon that patent which had been declared a good patent by the courts was in danger of losing his valid patent upon such application if he had not succeeded in getting a reissue ? Could the office have replied to his application : "There is no defect in your patent. It is not inoperative or invalid in any respect. Your application is therefore rejected and your patent canceled ?"

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If such were the law it would be placed at the head of every chapter on surrender and reissue in every work on patent law published, to warn patentees of the dangers they would incur by venturing into the Patent Office with valuable patents on such hazardous applications. Yet not one single text-writer has so laid down the law or even hinted at such a doctrine. In *Forbes v. Barstow Stove Co.*, 2 Cliff. 379, defendant's counsel cited *Moffitt v. Garr*, 1 Black, 273 [7 Am. & Eng. 111,] in his brief, but the court delivered an opinion deciding the case in favor of the plaintiff without even mentioning *Moffitt v. Garr*, although it would have been directly in point for the defendant had it been an authority for the doctrine contended for here.

"The reissue of the patent has no connection with or bearing upon the antecedent suits; it has as to subsequent suits; the antecedent suits depended upon the patent existing at the time they were commenced and unless it exists and is in force at the time of the trial and judgment, the suits fail."

Forbes v. Barstow Stove Co., 2 Cliff. 379; *Moffitt v. Garr*, 1 Black, 273 [7 Am. & Eng. 111.]

Mudge's old patent was returned to him "the same as it was before it was surrendered."

The court on the trial held that the only question in the case was "whether the patent in question was 'returned the same as it was before it was surrendered.'"

The decision of the law of this case therefore decides, and righteously decides, the justice of it. There never has been any question as to the return of the letters patent, and with a correct understanding of the law there is no doubt but that they were legally and regularly returned.

Mr. M. M. Waters, for defendant in error:

Plaintiff's sole cause of action was the two contracts set forth in the bill of complaint.

The sole consideration of those contracts was Mudge's patent. And those contracts *assumed* both the *invalidity* of the patent and the *necessity* of a reissue.

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The nonsuit was fully justified, because—the patent was inoperative and invalid by reason of a defective specification. The contracts absolutely fixed the status of the patent on the question of *surrender* by reciting that “the letters patent have been surrendered,” and besides; the statute permits a surrender only when the patent is inoperative and invalid. The contracts, therefore, absolutely impose upon the plaintiff the necessity of a reissue, and as a necessary step to obtain that reissue a *decision* in favor of Mudge in the then pending interference proceedings. *Moffitt v. Garr*, 1 Black, 273 [7 Am. & Eng. 111.]

This court have no jurisdiction to re-examine a non-suit on a writ of error. *Evans v. Phillips*, 4 Wheaton, 73.

(The argument was on the point that the court had no jurisdiction in the case and did not touch upon the surrender and reissue of the patent.)

Mr. Justice BRADLEY delivered the opinion of the court :

This writ of error is brought to review a judgment of the Court of Appeals of the State of New York involving the construction and effect of certain proceedings under the laws of the United States relating to letters patent for inventions. On the 25th of October, 1865, one Byron Mudge obtained letters patent for an improved mode of sinking wells. In January, 1866, he assigned to Preston R. Peck and George W. Peck, each an undivided quarter of the patent. On the 5th of March, 1866, Mudge surrendered his patent and applied for a reissue, and at the same time asked that an interference should be declared between him and one James Suggett, who had obtained two patents relating to the same matter, one in March, 1864, and the other in February, 1866. An interference was accordingly declared, and the application for reissue was, of course, suspended. The interference also embraced the application of one Nelson W. Green for a patent, then pending. This interference case was pending before the Patent Office and the Supreme Court of the

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District of Columbia, to which it was finally appealed, until January, 1868, when a decision was reached adverse to Mudge's application for a reissue, sustaining Suggett's patent, and granting a patent to Green. The effect of these proceedings and of this decision upon Mudge's patent was the matter passed upon by the Court of Appeals. That court held that the patent had thereby become valueless and void for any purpose, except perhaps as it might be ancillary to a bill in equity under section 4915 of the Revised Statutes of the United States.

The materiality of this decision to that of the case arose from the following facts: on the 24th of April, 1866, after Mudge had surrendered his patent for a reissue and had obtained a declaration of interference, as before stated, he and the two Pecks entered into an agreement with Collins, the defendant in error, to sell to him, for the price of \$4,000, one-fourth of the patent, and to give him a deed therefor whenever he should call for it. Collins paid the Pecks their portion of the purchase money in advance by delivering to them two 7-30 U. S. bonds for \$1,000 each. On the 28th of April, 1866, George W. Peck entered into a further agreement with Collins to convey to him, for the price of \$1,500, three thirty-seconds more of the patent, and to give a deed therefor when called upon for that purpose. Collins gave his note for the last named sum.

As these contracts were made in ignorance of the effect of a surrender of the patent for a reissue, they were afterwards conditionally revoked by returning the consideration money and note to Collins, upon the following stipulations respectively. On the 11th of June, 1866, Collins and George W. Peck executed an agreement of which the following is a copy, namely:

“Articles of agreement made this 11th day of June, 1866, between Truman D. Collins, of Cortland, N. Y., of the first part, and George W. Peck, of Cortland, N. Y., of the second part, are as follows:

Opinion of the court.

“Whereas, the said Peck did, by a contract bearing date April 28, 1866, bind himself, in consideration of the sum of fifteen hundred dollars, which sum was then paid to said Peck, to deed to said Collins an undivided three thirty-second part of a patent-right, entitled a new mode of sinking wells; and whereas said contract was given after the letters patent had been surrendered up for a reissue, and in ignorance of the fact that under certain circumstances the letters would not be returned to the owners of said patent; and whereas the said Peck desires a release from his obligations under the said contract in case he shall not be enabled to fulfil such obligations:

“Now this agreement witnesseth, that the said Collins, in consideration of the restoration of the said fifteen hundred dollars, agrees to release the said Peck from all obligations he has incurred under said contract, provided said Peck shall not be enabled at any time to fulfil the terms and conditions of said contract. And the said Collins further agrees to pay all that portion of the expenses of the application for a reissue which have been incurred or which may be hereafter incurred, which it shall be incumbent on said Peck to pay as an owner of said patent, as stated in said patent, viz: a three thirty-second part. The said Collins further agrees to pay to the said Peck the sum of fifteen hundred dollars when the said Peck shall notify him of his readiness to fulfil the said contract by deeding to said Collins his interest in said patent or any reissue which may be granted under said application.

“T. D. COLLINS.

“G. W. PECK.”

On the 6th of July, 1866, Collins, on receiving from the two Pecks the two 7-30 bonds which he had delivered to them, gave them the following receipt and agreement, namely:

“Received, July 6th, 1866, of Preston R. Peck and G. W. Peck, two thousand (2,000) dollars in 7-30 bonds, said

Opinion of the court.

bonds to be returned to Preston R. Peck and G. W. Peck as soon as Byron Mudge succeeds in getting a reissue of a patent for putting down wells, now in the Patent Office, or providing the old patent is returned ; but if said patent is not reissued or returned, then T. D. Collins is to keep the bonds and surrender his article he has for the purchase of an interest in said patent.

“T. D. COLLINS.”

Preston R. Peck assigned all his interest in this agreement to George W. Peck.

After the application of Mudge for the reissue of the patent had been refused, and a final adjudication had been made against his claim and in favor of Suggett and Green, the attorney of G. W. Peck, in some way which does not appear, got possession of the original patent, and Peck tendered himself ready to perform the conditions of the last two agreements, and demanded payment or return of the sums mentioned therein, to wit, the \$2,000 and the \$1,500. This being refused by Collins, the present suit was brought to recover the money. The Judge who tried the cause nonsuited the plaintiff upon the following view of the case, as stated in the bill of exceptions, namely: “I am inclined to think that I ought to non-suit the plaintiff for the reason that the surrender of this patent by the patentee operated as an extinguishment of that patent. That, certainly, is within the reasoning of Judge NELSON in the case in Black’s Reports,—although that case is not precisely in point and in accordance with the apparent and real intent of the parties when a surrender is made, and if such surrender does not absolutely and unqualifiedly extinguish the patent,—and it seems to me that there should be some act of the department indicating an intention to send that patent back into the world as a valid patent. There should be a definite act of the department indicating an intention that it should remain in force, still having life and vitality.”

The plaintiff excepted and the cause was taken by appeal

Opinion of the court.

to the Supreme Court of New York in General Term, and thence to the Court of Appeals, by both of which courts the judgment was affirmed. The Court of Appeals construed the two contracts to mean by a *return* of the old patent, a return of said patent clothed with the same force and validity which it had before it was surrendered for a reissue; and held that the effect and operation of the refusal of a reissue, and the decision against Mudge on the interference, was to destroy such force and validity. The first question for us to decide is, whether this decision as to the effect of the surrender, and the refusal to reissue the patent, was or was not erroneous. If it was not, we are relieved from an examination of any other question in the case. And on this point we have very little embarrassment. We think that the Court of Appeals was right in deciding that by the surrender of Mudge's patent for a reissue, the interference declared thereon, the decision against Mudge, and the subsequent refusal of a reissue of his patent, said patent became destitute of validity and absolutely void.

It was decided by this court in the case of *Moffitt v. Garr*, 1 Black, 273 [7 Am. & Eng. 111,] that the surrender of a patent, under the act, extinguishes it. That was an action to recover damages for an infringement of a patent. Whilst the action was pending the patent was surrendered, and this fact was pleaded as a bar to the further prosecution of the suit. The averment of the plea was "That since the commencement, etc., the said Moffitt surrendered to the United States the patent before that time issued to him, and for the alleged infringement of which this suit is brought." This plea was sustained on demurrer and judgment given for the defendant. The judgment was affirmed by this court after argument by able counsel. Mr. Justice NELSON, in delivering the opinion of the court, said: "The point in the case is, whether or not the patentee may maintain a suit on the surrendered patent instituted before the surrender, if he has not availed himself of the whole of the provision.

Opinion of the court.

and taken out a reissue of his patent with an amended specification. The construction given to this section, so far as we know, and the practice under it, in case of a surrender and reissue, are that the pending suits fall with the surrender. A surrender of the patent to the Commissioner, within the sense of the provision, means an act which, in judgment of law, extinguishes the patent. It is a legal cancellation of it, and hence [it] can no more be the foundation for the assertion of a right after the surrender, than could an act of Congress which has been repealed."

Since the decision of this case, it has been uniformly held that if a reissue is granted, the patentee has no rights except such as grow out of the reissued patent. He has none under the original. That is extinguished. And, although for the purpose of fixing a date to the title in a question of priority, and of limiting the period for which the patent is to run, the date of the original patent is important; no damages can be recovered for any acts of infringement committed prior to the reissue.

It seems to us equally clear, that as the law stood when that decision was made, and as it continued to stand in 1866, when the surrender of Mudge's patent took place, a patent surrendered for reissue was canceled in law as well when the application was rejected as when it was granted. The patentee was in the same situation as he would have been if his original application for a patent had been rejected. The law declares in terms, that "The specifications and claim in every such case shall be subject to revision and restriction in the same manner as original applications are."—Act of 1837, sec. 8; 1870, sec. 53; R. S. sec. 4916. The question of his right to any patent at all was opened anew, the same as upon an original application for a patent. Surrender of the patent was an abandonment of it, and the applicant for reissue took upon himself the risk of getting a reissue, or of losing all. A failure upon the merits in a contest with

Notes and citations.

other claimants, only gave additional force to the legal effect of the surrender.

Since the surrender of the patent in this case the patent laws have undergone a general revision by the Act passed July 8, 1870. In the 53d section of that Act, (being the section relating to the surrender and reissue of patents,) a new clause was introduced, declaring that "The surrender shall take effect upon the issue of the amended patent;" and this clause is retained in section 4916 of the Revised Statutes. What may be the effect of this provision in cases where a reissue is refused, it is not necessary now to decide. Possibly it may be, to enable the applicant to have a return of his original patent if a reissue is refused on some formal, or other ground, which does not affect his original claim. But if his title to the invention is disputed and adjudged against him, it would still seem that the effect of such a decision should be as fatal to his original patent as to his right to a reissue.

We find no error in the record, and the judgment is affirmed.

103 U. S. 665.

Notes:

1. Surrender of the original patent cancels it:

Moffitt v. Garr, 1 Black, 273 [7 Am. & Eng. 111.]

Reedy v. Scott, 23 Wall. 352 [10 Am. & Eng. 133.]

Surrender and reissue pending litigation:

Littlefield v. Perry, 21 Wall. 205 [9 Am. & Eng. 448.]

Meyer v. Pritchard, Bk. 23 L. ed. 961 [11 Am. & Eng. 35.]

Surrender and reissue after final decree:

Mevs v. Conover, Bk. 23 L. ed. 1008 [11 Am. & Eng. 39.]

Notes and citations.

4. Act 1832, Sec. 3; Act 1836, Sec. 13; Act 1837, Secs. 5 and 8;
Act 1870, Sec. 53; R. S. Sec. 4916.

Patent in suit:

No. 50,614. Mudge, B. October 24, 1865. Sinking Wells.

Cited:

IN CIRCUIT COURTS IN:

Celluloid Mnfg. Co. v. Zylonite Brush & Comb Co., 1886. 27 Fed.
Rep. 291; 35 O. G. 1228.

IN TEXT-BOOKS :

2 Abb. Pat. Laws, 1886, pp. 181, 356.
Walker on Pats., 1883, pp. 165, 222.

Syllabus.

HOPKINS AND DICKINSON MANUFACTURING
COMPANY, APPELLANTS, v. P. CORBIN ET AL.*

103 (13 Otto) U. S. 786-792. Oct. Term, 1880.

[Bk. 26, L. ed. 610 ; 20 O. G. 297.]

Affirming *Ibid*, 14 Blatch. 396 and Same v. Whipple, 14 Blatch. 396.

Argued April 21, 1881. Decided May 2, 1881.

Particular patent construed. Reissue broader than original. Infringement. File wrapper and contents. Scope of reissue.

- 1 Reissued letters patent, No. 6,693, McGregor and Voll, October 11, 1875, (original No. 88,318, March 30, 1869,) construed and *held*, that if construed to cover the alleged infringing device, it was void, as including a previous abandoned invention of one only of the joint patentees, and was also void as being broader than the original invention; if limited, it was not infringed. (p. 160.)
2. The contents of a reissue-application file may be examined in order to determine the scope of the reissue as granted. (p. 161.)

[Citations in the opinion of the court:]

Wood-Paper Patent, 23 Wall. 566 [10 Am. & Eng. 199.] p. 162.
Russell v. Dodge, 93 U. S. 460 [10 Am. & Eng. 495.] p. 162.
Powder Co. v. Powder Works, 98 U. S. 126 [12 Am. & Eng. 201.] p. 162.
Ball v. Langles, 102 U. S. 128 [12 Am. & Eng. 508.] p. 162.
Swain Turbine Co. v. Ladd, 102 U. S. 408 [p. 1 *ante*.] p. 162.
Wicks v. Stevens, 2 Woods, 310. p. 162.

Appeal from the Circuit Court of the United States for the District of Connecticut.

The case is stated by the court.

The specifications and drawings of McGregor & Voll's original and reissued patents are as follows :

*See Explanation of Notes, page III.

Statement of the case.

GEORGE MCGREGOR AND GEORGE VOLL, OF CINCINNATI, OHIO, ASSIGNORS, BY MESNE ASSIGNMENTS, TO THE HOPKINS & DICKINSON MANUFACTURING COMPANY, OF NEW YORK CITY.

IMPROVEMENT IN SASH-LOCKS.

Specification forming part of Letters Patent, No. 88,318, dated March 30, 1869. Reissue No. 5,253, dated January 21, 1873. Reissue No. 6,693, dated October 11, 1875; application filed August 10, 1875.

To all whom it may concern :

Be it known that George McGregor and George Voll, of Cincinnati, Ohio, did invent certain new and useful Improvements in Sash-Fasteners; and that the following, taken in connection with the drawings, is a full, clear, and exact description thereof:

In the drawings, Figure 1 is a plan or top view of the contrivance as a whole. Fig. 2 is a vertical section through the same as applied to a window-sash. Fig. 3 is a plan of the bottom of the vibrating lock-lever and its bolt and spring. Fig. 4 is a perspective of the base-plate; and Fig. 5 a perspective view of the hook or striking-plate.

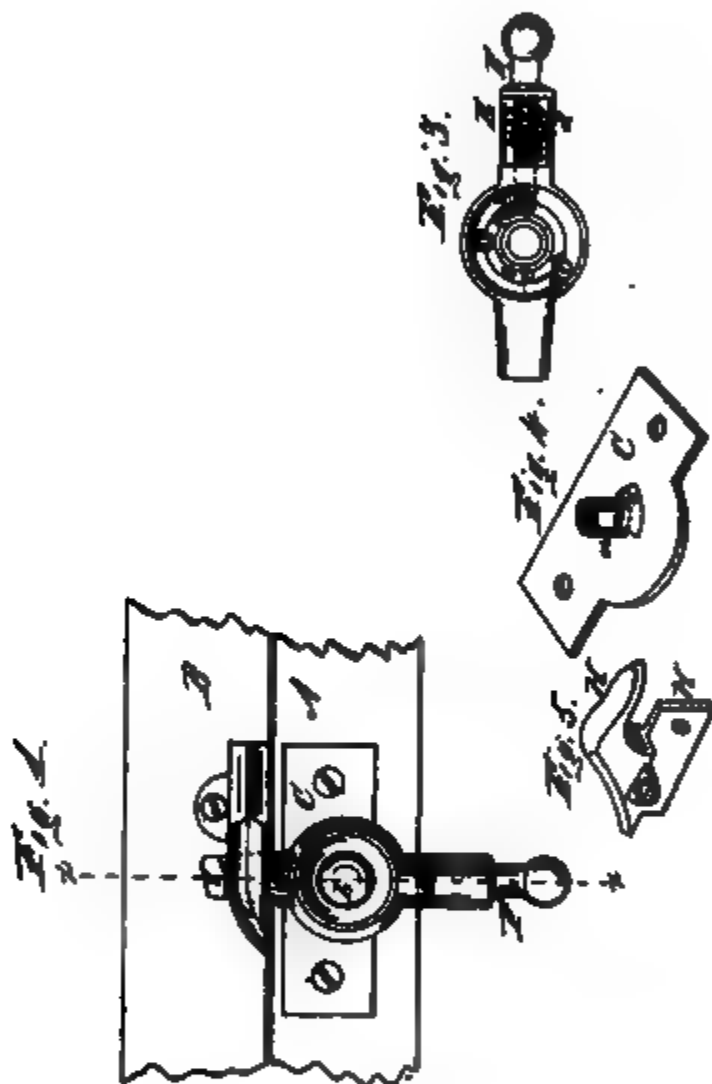
Prior to the date of this invention many kinds of sash-locks have been used or described. Among them one described in English Letters Patent, dated July 26, 1843, No. 9,614, and another in Letters Patent of the United States, dated May 11, 1858.

In the former of these a bolt was secured to the vibrating lock-lever in such a manner that it could be moved to and fro in the line of the lever; and in the latter a bolt moving perpendicularly to the lock-lever was mounted thereon. In both, the bolts, when shot, prevented the lock-lever from being swung from the locking position until the bolt was retracted from a nick, depression, or socket formed in the striking plate or hook. Both prevented the lock-lever from

G. McCREGOR & S. VOLL.
Sash-Lock.

No. 6,693.

Reissued Oct. 11, 1875.



Witnesses
Phillips Abbott.
Barnes & Gham

Inventor
Hopkins & Dickinson
H. Dickinson

Statement of the case.

being swung by means of a knife, or thin piece of metal, inserted from the outside between the sashes.

The improvement herein described upon these sash-fasteners consists in arranging the catch-segment, by which the bolt shoots upon the base-plate on which the lock-lever is pivoted.

Window-sashes shrink or wear. So do the wooden grooves in which they slide. Moreover, the sashes can never be a tight fit in the grooves, and consequently it is difficult to keep the base-plate and its lock-lever and the striking-plate or hook always in the same relative position. Therefore, the bolt cannot always shoot into its socket when the latter is formed on the hook or striking-plate. When the socket is on the same plate upon which the lever is mounted this difficulty is avoided. In the English patent before referred to an attempt has been made to avoid this difficulty by forming several depressions on the hook, so that the bolt may enter one where it cannot be brought opposite another.

In the drawings, the lock-lever is represented at E G. A lip, *i*, may, for greater security, and in order to draw the sash-rails together, be formed on one end thereof. On the lock-lever, and so mounted as to slide in the line thereof, is the bolt, F, with its knob or handle, and a spring, *d*, which shoots it. This lock-lever is mounted upon the base-plate, C, which is provided with a hollow stud, *a*. This stud is entered into a hole in the lock-lever, and a rivet, *b*, secures the lever to the base-plate, the result being that the lever is attached to, but may be turned on, the base-plate. A projection, *c*, rises up from the base-plate. When the lever is at right angles with the position shown in Figs. 1 and 2 the end of the bolt rests against the vertical face. When the lever is shoved into the position shown in Figs. 1 and 2 then the end of the bolt is shot past the end of the projection toward the pivot of the lever by its spring, and when it is shot the lock-lever is fastened, and cannot be turned until the bolt is retracted. The catch-segment, which receives the bolt when shot, being, as thus described, on the base-

Statement of the case.

plate upon which the lever is pivoted, it is evident that the bolt, which is mounted upon the lever, will always shoot by the segment when the lever is in the proper position, and that no derangement of the relative position of the two sashes can effect this result. This result does not depend upon any special construction or form of the lever, or special form or construction of bolt, or manner of mounting the bolt on the lever, but upon the construction in which the lever carrying the bolt is pivoted upon the same base-plate that supports the catch-segment for the bolt.

In order to render the manipulation more convenient there is applied to the contrivance a coiled spring, *e*, one end of which, *f*, bears against a stud, *h*, in a cavity formed in the lever, and the other end, *g*, of which bears against one end of the projection, *c*. This spring always tends to throw the lever away from its locked position. Consequently, when the bolt is pulled out of its place behind the catch-segment this spring throws the lever into a position at right angles to that represented in Figs. 1 and 2, and holds it there.

What is claimed as the invention of George McGregor and George Voll is—

A vibrating lever, provided with a bolt, in combination with a striking-plate or hook and with a catch-segment, behind which the bolt can pass, formed upon the plate upon which the lever is pivoted, the whole constituting a sash-fastener, and the parts enumerated in the claim being and operating substantially as specified.

Witness the hand of the said Hopkins & Dickinson Manufacturing Company, by Frederick Z. Dickinson, its treasurer, duly thereunto authorized this 6th day of August, 1875.

HOPKINS & DICKINSON MFG. CO.,
By F. Z. DICKINSON, *Treasurer*.

Witnesses :

BERN. T. VETTERLEIN,
PHILLIPS ABBOTT.

Statement of the case.

GEORGE MCGREGOR AND GEORGE VOLL, OF CINCINNATI, OHIO.

Letters Patent, No. 88,318, dated March 30, 1869.

IMPROVEMENT IN SASH-LOCK.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that we, George McGregor and George Voll, of Cincinnati, in the county of Hamilton, and State of Ohio, have invented a new and useful Sash-Lock ; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of our sash-lock, secured to the top and bottom rail of the upper and lower sash for windows ;

Fig. 2, a vertical section of the same, taken in the line, *xx*, of fig. 1 ; and,

Figs. 3, 4, and 5, are detail views.

The nature of our invention consists in the peculiar construction and arrangement of a sash-lock, by means of which both the upper and lower sashes of a window are securely held closed, and at the same time the two meeting rails are kept closely together, thus preventing any vibration of the same.

To enable those skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

A represents the top rail of the lower sash, and

B, the lower rail of the upper sash.

C, the base-plate of the lock. which is screwed on to the top of the rail, A.

D is a circular hollow case, which rests on the base-plate, C.

Statement of the case.

a is a hollow shaft, which is a part of the base-plate, C.

In the top of the case, D, is an opening, through which the upper end of the hollow shaft, *a*, passes.

The case, D, is held on the base-plate, C, by means of the bolt, *b*, which passes through the hollow shaft, *a*, and is riveted to the plate, C, the case, D, being allowed to play freely around the said hollow shaft.

E is a hollow arm, which is an extension of the case, D, in which is placed the bolt, F.

Inside of this hollow arm, E, and around the bolt, F, is a spiral spring, *d*, one end of which rests against the outer end of the arm, E, and the other, against a pin passing through the bolt, F.

On the base-plate, C, is a segment, *c*, against which the end of the bolt, F, rests.

Inside of the case, D, and around the hollow shaft, *a*, is a coil-spring, *e*, the ends, *f g*, of which are turned outward, the end, *f*, resting against the leg, *h*, on the inside of the case, D, and its other end resting against the segment, *c*, on the base-plate, C, as seen in fig. 3.

On the side of the case, D, opposite the arm, E, is another arm, G, on the outer end of which is a projection, *i*, which extends upward.

To the rail, B, is secured a striking-plate, or catch, H, of the form shown in fig. 5.

By making it in this form, it is secured, both to the top and side of the meeting-rail of the upper sash, the screws entering at right angles to each other, thus securing it firmly.

Its operation is as follows :

When the sash is unlocked, the arms, E and G, are parallel to the edges of the meeting-rail of the lower sash.

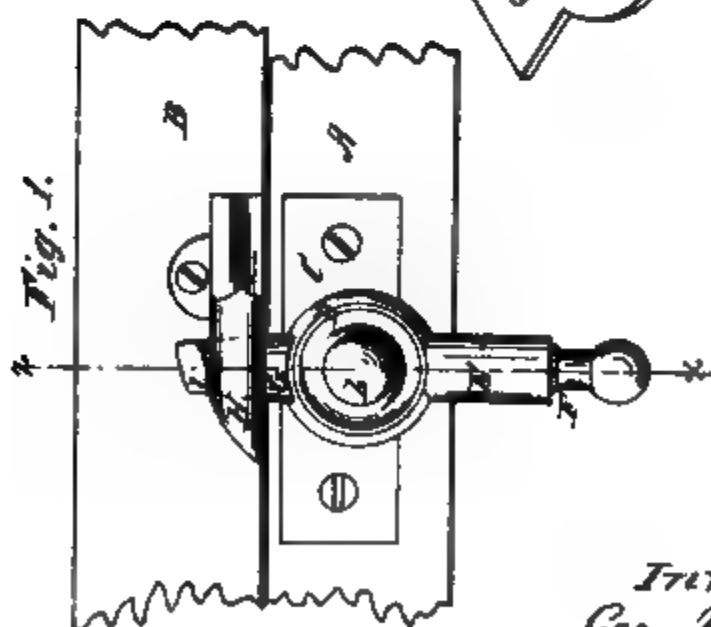
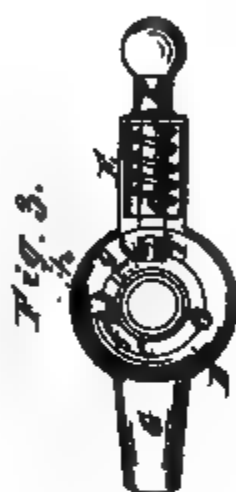
To lock the sash, take hold of the outer end of the bolt, F, and, by turning it towards you, the arm, G, is thrown around over the top of the meeting-rail of the upper sash, passing under the catch, H, and the projection, *i*, on the said arm, passing outside and against the said cam-shaped

McGregor & Voll,

Sack Lock.

No. 88,318.

Patented Mar. 30. 1869



Witnesses
G. H. Smith
John Martin

Inventors
Geo. McGregor
Geo. Voll
By J. C. Theaker
their attorney.

Argument of counsel.

catch, as seen in fig. 1, thus drawing the two sashes closely together.

As soon as the inner end of the bolt, F, has passed the end of the segment, c, it is forced inward by the spring, d, thus securely locking the sash. To unlock it, draw out the bolt, F, until its inner end reaches the outside of the segment, c, when the spring, e, throws the bolt and arm, E and G, back into their former positions.

Having thus fully described our invention,

What we claim as new, and desire to secure by Letters Patent, is—

In a sash-bolt, the arrangement and combination of the base-plate, C, with the segment, c, thereon, case, D, spring-bolt, F, arm, G, and catch, H, as shown and described, for the purpose specified.

GEORGE MCGREGOR.
GEORGE VOLL.

Witnesses :

BEN. MCGREGOR,
HOWARD DOUGLASS.

Messrs. Edmund Wetmore, Jenner, and Thompson, for appellant :

If the two models made prior to the final sash lock were experimental steps merged in the final invention, then it is immaterial whether these experiments embodied the conceptions of Voll alone, to which the conceptions of McGregor were afterwards added in making the final invention of the combination patented to both. It is obviously immaterial in what order of *time* the devices are produced or conceived of, which are contributed by the several inventors to the joint result, and, even if Voll was the sole conceiver of the idea of having the lever lock on the base plate, and conceived and embodied this before McGregor had made or conceived of the devices, parts, or features, which he contributed to the joint result, that circumstance is immaterial, and that feature originating with Voll, was part of his contribution to the final

Argument of counsel.

combination, and embodied therein and constitutes part of its novelty. *Carter v. Perry*, 8 O. G. 518; *In re Tiernan*, 11 O. G. 1; *Chase v. Chase*, Com. Dec., June 16, 1873.

“Joint invention,” says the Commissioner of Patents in *Re Tierman*, above cited, “rarely consists in the joint conception of each particular device, but of the combination of devices separately conceived by the individual inventors.”

It was substantially admitted in the court below, that if the foregoing positions are well taken the complainants are entitled to recover. There is no question that, if the valuable novel feature of the arrangement of the parts so as to have the locking lever lock on the base plate was included in the joint invention, then the reissue must be so construed as to include the defendant's sash lock, which only differs from the patented lock in immaterial features. The defendant's witness expressly admits the infringement if the reissue be construed so as to include this, the only novel feature in the sash lock which gives it any value.

Also, if this feature was included in the joint invention the reissue is valid, and for the same invention as the original. There is no injection of new matter of invention. The same model and drawing are referred to, and the same structure and operation are described in both, the only difference being that the reissue, with greater particularity and clearness, points out and explains a feature clearly within the scope of the invention of the original specification, but not adequately therein described. Neither does the fact that the Patent Office insisted on the omission of the words “socket or depression” from the reissue and the substitution of “catch segment” affect the case. If the socket or depression is the equivalent of the catch segment, then the words are unnecessary; if not equivalent then they are not allowable. If the construction of the reissue for which the appellant contends is correct, then it is plain that socket and segment are equivalents.

Messrs. O. H. Platt and C. E. Mitchell, for appellees:

Argument of counsel.

We do not infringe when the claim is legally construed. The mere fact that our combination produces the same *effect* in locking the sash, and in holding the vibrating lever does not, in accordance with law, make us infringers. *Fuller v. Yentzer*, 94 U. S. 299 [11 Am. & Eng. 176 ;] *Burr v. Duryee*, 1 Wall. 570 [7 Am. & Eng. 224 ;] *Seymour v. Osborne*, 11 Wall. 549 [8 Am. & Eng. 290.]

The law requires that the contrivances must be substantially alike as mechanisms, in order to infringe. From testimony and from inspection, it appears that defendants do not use the bolt "which shoots *by the segment*" nor the "*catch segment*" *behind* which the bolt can pass. Therefore they do not infringe.

George Voll alone invented (so far as one can be said to invent a principle) the principle of locking upon the base plate, and he embodied that principle in the form of a bolt, mounted upon a vibrating lever, entering *a socket upon the base plate as opposed to the catch plate*. This application for a patent was rejected, and the broad invention was abandoned. Voll then invented an improvement, which was also given up forever. He and McGregor then invented a specific locking device, to act with the vibrating lever and striking plate of the old combination, and this they patented jointly, in its connection with the co-operating parts, and *this and this only* was patented in the reissue, despite the plaintiff's desire and effort to obtain a broader claim.

The Patent Office knew that Voll invented what may be called "the broad claim ;" and our own proposition is, that so knowing, the Patent Office succeeded in so controlling the use of language in the reissue, that when that language is read in connection with the original patent, its legal import restricts the plaintiffs to *that form* of locking device, (in connection with the other parts,) which consists in a bolt shooting behind a "catch segment," the parts enumerated *being* and operating substantially as *specified*.

If the claim be construed so as to cover the defendants'

Opinion of the court.

sash lock, then it is void as being the invention of Voll, singly, and not of Voll and McGregor.

Ransom v. Mayor of New York, 1 Fish. 252; Barrett v. Hall, 1 Mas. 473; Hotchkiss v. Greenwood, 4 McLean, 462.

Upon the broad construction, the reissue is not for the same invention as the original patent.

Mr. Justice Woods delivered the opinion of the court:

This is a suit in equity, brought for the infringement of certain reissued letters patent, dated October 11, 1875, for an improvement in sash-locks. The original (a) patent was issued to George Voll and George McGregor as joint inventors, and the reissue was granted to their assignee, the Hopkins & Dickinson Manufacturing Company, the appellant.

In the years 1868 and 1869 George Voll was the foreman of George McGregor, a locksmith of Cincinnati, who kept a shop where he sold sash-locks. Prior to February, 1868, McGregor had been selling a self-locking sash-lock made by Robert Lee, of Cincinnati, under a patent granted to him dated May 30, 1865.

Sash-locks are a contrivance which, by fastening the top rail of the lower sash to the bottom rail of the upper sash, prevent the opening of windows from the outside, either by lowering the upper or raising the lower sash. Their general construction and operation is as follows: a lever is pivoted upon the top rail of the lower sash. When the lock is open, the direction of this lever is the same as the rail of the sash. To fasten the sashes, it is necessary to turn this lever on its pivot to a position across and at right angles to the division line between the impinging rails of the two sashes, when it engages with a catch on the bottom rail of the upper sash. This catch, if, as has generally been the case, it consists of a simple hook, under the projection of which one end of the lever remains when in the locking position, is sufficient to prevent the opening of the

103 U. S. 786-787.

(a) Otto substitutes for "patent" "letters patent" throughout this case.

Opinion of the court.

window by any direct pressure on the sashes exerted in the ordinary way to open a window, but there would be nothing to prevent the pushing aside of the locking lever by inserting from the outside, between the impinging rails of the sashes, a knife blade, paper-cutter, or other similar instrument, and thus opening the lock. To prevent this, various devices have been used to hold the locking lever fast when in the locking position, so that it could not be moved sideways from the outside, but only from the inside, by disengaging it from the catch in the ordinary process of unlocking.

This object was accomplished in the sash-lock of Lee, by giving the lever a certain amount of play on its pivot, so that when it was turned to the locking position its end not only passed under the catch, but also behind a lip in the catch, thereby forming, with the latter, a latch which prevented any lateral movement of the lever. This was, therefore, called a self-locking sash-lock. As in most sash-locks, the pivoted locking lever was secured to a bed-plate fastened upon the top of the upper rail of the lower and inner sash. This plate was designated the base-plate. The catch was attached to a similar plate on the bottom rail of the upper sash, which was called the striking plate.

McGregor was unable to furnish the Lee sash-lock to fill a large order which he had received, and mentioned the fact to Voll, who in a short time produced the model of a self-locking sash-lock. In this lock, the locking lever was pivoted on a cylindrical stump upon the base-plate, the base-plate being fastened upon the upper rail of the lower sash. There was a round hole in that part of the cylindrical stump nearest the inner edge of the sash rail, fitted to receive a small cylindrical pin or bolt. That part of the locking-lever which, when it was in the locking position, was over the rail of the inner sash, had a longitudinal hole extending through it to the pivotal stump. Through this hole, a cylindrical pin extended from the outer end of the lever to

Opinion of the court.

the stump, and was pressed by a spiral spring against the stump. When the locking lever was turned around into the locking position, the end of the pin, by the action of the spring, entered the hole by a horizontal motion, and thus the lever was prevented from turning sidewise. When it was desired to unlock the lock, the pin which projected beyond the end of the locking lever and ended in a knob was pulled back out of the hole, and the lever was turned sideways into its unlocked position.

This sash-lock was made about February, 1868, and on the 24th of that month Voll applied for a patent for his invention, describing it as an improvement in sash-locks, the object of which was to prevent the lock from being unfastened from the outside by inserting a knife or other thin instrument between the sashes, and pushing aside the locking lever. The claim was thus set forth in his specification: "Having thus fully described and set forth the nature of my invention, what I desire to secure by letters is: The pin, F, operating in hole in stump, A, preventing the fastener from being turned, as described and set forth."

This application was refused because the invention had been anticipated by a patent issued to Brockseller & Sargent, May 11, 1858. Reference was also made by the examiner in his refusal to the patent of Robert Lee, dated May 30, 1865. This application was reheard and again rejected, and the rejection was acquiesced in by Voll (*b*). Not long after his application and before its final rejection, Voll made (*c*) a small lot of silver-plated sash-locks according to his plan, which were sent in full working order to McGregor's shop for sale.

After this rejection, Voll made another sash lock, omitting the hole and pin features and using a pivoted piece at the outer end of the lever which worked vertically by a flat spring, locking the lever as before by an engagement on the base-

103 U. S. 788-789.

(*b*) Otto substitutes for from *b* to *c*, "who long after his application and before its final rejection made."

Opinion of the court.

plate (*d*). Voll sent a working model of this contrivance to Munn & Co., of New York, with the view of having a patent applied for, but they informed them that it was not patentable.

Thereupon Voll and McGregor went to work and made the improvement in sash locks for which a patent was issued to them dated March 30, 1869 (*e*).

The original specification described by letter references the separate parts of the sash-bolt, and their operation, and the claim was stated as follows: "In a sash-bolt the arrangement and combination of the base-plate, C, with the segment, *c*, thereon, cam, D, spring-bolt, F, arm, G, and catch, H, as shown and described for the purpose specified."

On July 1, 1870, Voll and McGregor sold this patent and the invention thereby secured to the appellant.

(*f*) On August 6, 1875, the appellant applied for a reissue of this patent (*g*).

In the application for a reissue the claim was thus stated: "A vibrating lever provided with a bolt, in combination with a striking plate or hook and with a catch-segment, behind which the bolt can pass, formed upon the plate upon which the lever is pivoted, the whole constituting a sash-fastener, and the parts enumerated in the claim being and operating substantially as specified."

(*h*) The reissue was granted the appellant on October 11, 1875, as prayed for (*i*).

The essential distinction between the original invention of Voll, for which a patent was refused, and that covered by the

103 U. S. 789.

(*d*) Otto substitutes for from *d* to *e*, "With the view of having letters applied for, he sent a working model of this contrivance to Munn & Co., of New York, who informed him that it was not patentable.

Thereupon Voll and McGregor made the improvement in sash locks for which letters were issued to them dated March 30, 1869."

(*f*) Otto substitutes for from *f* to *g*, "Appellant, who Aug. 6, 1875, applied for a reissue of them."

(*h*) Otto substitutes for from *h* to *i*, "It was granted, Oct. 11, 1875, as prayed for."

Opinion of the court.

reissue to the appellant (*j*) of the letters patent to Voll and McGregor (*k*), is this : In the contrivance first named the locking lever when in locked position was held fast in its place by a bolt which was driven by a spiral spring into a hole in the stump on which the lever was pivoted. In the contrivance covered by the patent to Voll and McGregor the bolt which holds the locking lever in its place, instead of entering a hole in the post is forced by the spiral spring past the end of a segment raised upon a base-plate, which prevents a sidewise movement of the locking lever until the bolt is retracted.

The sash lock manufactured by appellees, which appellant alleged was an infringement on its reissued patent, had placed on the end of the locking lever a pivoted latch provided with a downward projection which, when the locking lever was placed in a locking position, entered a hole or socket in the base plate.

The Court below dismissed the bill. Its decree is brought here for review.

The defence insisted on is, that if the claim of appellant's reissued patent be construed to cover the appellees' sash locks it is void, because it embraces the previous invention made by Voll alone, which had been abandoned to the public after it had been rejected by the Patent Office, and which was not the invention of Voll and McGregor jointly, and that if the reissue is so construed as to cover the sash locks made by appellees it is for a different invention from that which the original patent to Voll and McGregor covered.

We think this defence is sustained by the evidence.

It is perfectly clear that the sash lock manufactured by the appellees was as much an infringement of the device invented by Voll for which a patent was refused, as it was as of the reissued patent of appellant. In both Voll's contrivance and the patented device of Voll and McGregor which appellant claims, the catch to prevent the sidewise motion of the locking lever was on the base-plate and not on the striking plate,

Opinion of the court.

and in Voll's invention the catch consisted of a bolt driven by a spiral spring into a hole, and in Voll and McGregor's invention the bolt was driven by a similar spring past the end of a segment raised on the base-plate.

A pivoted latch on the end of the locking lever, with a downward projection entering a socket in the base-plate to prevent a lateral movement of the locking lever, does not appear to us to be the equivalent of either the contrivance of Voll or of Voll and McGregor. The difference between them is as clear and distinct as the difference between a door latch and a door bolt.

But if the sash-lock of appellees is held to infringe the Voll and McGregor patent, it beyond question or controversy includes the separate device of Voll for which he made application for a patent. The only ground upon which appellees' sash lock can be held to embody any part of the device of either, is that the catch to prevent the sidewise motion of the locking lever is on the base-plate and not on the striking plate. But this was the important part of Voll's separate invention, and he was refused a patent for it and abandoned his application therefor. He made locks according to his device and put them on sale.

Construed in the light of the fact that the application of Voll for a patent for his device was refused, the invention of Voll and McGregor is reduced to very narrow limits. Their improvement would consist solely in the fact that the bolt in the locking lever, instead of being driven by the spiral spring into a hole in the post upon which the lever is pivoted, is driven past the end of a segment raised on the base-plate. So construed it is perfectly plain that there is no infringement.

Conclusive evidence to establish the defence is found in the amendments made by the appellant in its application for reissue. If the reissue had been granted as applied for, it might with some plausibility have been claimed that the reissued patent was infringed by the sash-locks made by the

Notes and citations.

appellees. But the application in its original form was not granted. The specification for the reissued patent was amended by striking out wherever they occurred, the words "socket or depression in the base-plate," and substituting the words "catch segment or segment."

This shows beyond controversy that in asking for a reissue the appellant sought to make its patent cover sash locks like those made by appellees, but was not able to do so, and the reissue was restricted to a sash-lock in which the locking lever was made fast by a bolt driven past the end of a segment raised on the base plate.

These conclusions warrant the inference that if the reissued patent is to be construed as appellant insists it should be and as it must be, to include the sash-locks of appellees, it is (*l*) broader than the original patent and, therefore, void.—Wood Paper Patent, 23 Wall. 566 [10 Am. & Eng 199 ;] Russell v. Dodge, 93 U. S. 460 [10 Am. & Eng. 495 ;] Powder Co. v. Powder W., 98 U. S. 126 [12 Am. & Eng. 201 ;] Ball v. Langles, [12 Am. & Eng. 508 ;] and Swain Turbine Co. v. Ladd [p. 1 *ante*,] decided at the present Term ; Wicks v. Stevens, 2 Woods, 312.

We are of opinion that the decree of the Circuit Court dismissing appellant's bill was right. It is, therefore, affirmed.

103 U. S. 791-792.

(*l*) Otto substitutes for "it is" "they are."

Notes :

2. Reissue file-wrapper and contents :

Crawford v. Heysinger, 123 U. S. 589.

Patent in suit :

No. 88,318. McGregor & Voll. March 30, 1869. Reissue
No. 6,693. October 11, 1875. Sash-Fastener.

Notes and citations.

OTHER SUITS ON SAME PATENT :

Hopkins & Dickinson Mnfg. Co. v. Corbin, 14 Blatch. 396.

Cited :

IN SUPREME COURT IN .

Dobson v. Bigelow Carpet Co., 1885. 114 U. S. 439 ; Bk. 29 L. ed. 177.

IN CIRCUIT COURTS IN :

Andrews v. Hovey, May, 1883. 5 McCrary, 181 ; 16 Fed. Rep. 387 ; 26 O. G. 1011.

Otis Bros. Mnfg. Co. v. Crane Bros. Mnfg. Co., March, 1886. 27 Fed. Rep. 550.

Syllabus

GEORGE CROUCH, APPELLANT, v. WILLIAM
ROEMER.*

108 (13 Otto) U. S. 797-799. Oct. Term, 1880.

[Bk. 26, L. ed. 426 ; 19 O. G. 1067.]

Affirming *Ibid*, 2 Ban. & Ard. 637.

Argued January 11, 1881. Decided February 28, 1881.

Particular patent construed. Absence of invention. Improvement in degree. Use of known equivalents.

1. Claim 1 of reissued letters patent, No. 4,289, G. Crouch, March 7, 1871, (original patent, No. 82,606, September 29, 1868,) Shawl Strap, construed and *held*, that shawl straps with handles attached to a leather cross-piece having loops at the ends, being old, it is no invention to stiffen by artificial means the leather cross-piece, which had before been made as rigid as it could be by thickness, doubling, and stitching. The use of known equivalents for some of the elements of former structures, to make them somewhat better is not invention. (p. 174.)

Appeal from the Circuit Court of the United States for the District of New Jersey.

The case is fully stated by the court.

The specifications and drawings of Crouch's original and reissued letters patent are as follows :

GEORGE CROUCH, OF WESTPORT, CONNECTICUT.

IMPROVEMENT IN SHAWL-STRAPS.

Specification forming part of Letters Patent, No. 82,606, dated September 29, 1868; Reissue No. 4,289, dated March 7, 1871.

To all whom it may concern :

Be it known that I, George Crouch, of Westport, in the

*See Explanation of Notes, page III.

Statement of the case.

county of Fairfield and State of Connecticut, have invented and made an Improvement in Straps for Shawls, etc.; and the following is declared to be a correct description thereof.

Before my invention, straps had been used to confine a shawl or similar article in a bundle, and a leather cross-piece, with loops at the ends, had extended from one strap to the other, and above, and attached to, this leather cross-piece was a handle. This leather cross-piece or connecting-strap is liable to bend and allow the straps to be drawn toward each other by the handle in sustaining the weight; hence the bundle is not kept in a proper shape, and this handle is inconvenient to grasp.

My invention consists in a rigid cross-bar beneath the handle, combined with suspending-straps that are to be passed around the shawl or bundle, such straps passing through loops at the ends of the handle.

In the drawing, Figure 1 is an elevation of the shawl-strap as in use, and Fig. 2 is a section at the line, *xx*.

The cross-bar, A, is made of rigid material, and connected to the same is the handle, B. C C are loops for the suspending-straps, D D, to pass through. This rigid cross-bar, A, prevents the handle, B, drawing the loops, C C, and straps, D, toward each other, and keeps the ends of the handle at the proper distance apart, and consequently, the shawl or bundle is suspended and preserved in the proper shape in transportation.

The loops, C, are shown as made from the leather of the handle, B, extending beyond the end of such handle, and folded to form the loops. This is much preferable to the loops made at the ends of the leather strap heretofore used below the handle.

The straps, D D, are to be of any usual character; and I prefer to make the rigid cross-bar of thin sheet metal, stamped up in the corrugated form shown sectionally in Fig. 2 at *a a*, and covered with leather, as this form insures strength and stiffness with but little weight.

I claim as my invention—

G. Crouch,

Shawl Strap.

No. 4289.

Reissued Mar. 7. 1871.

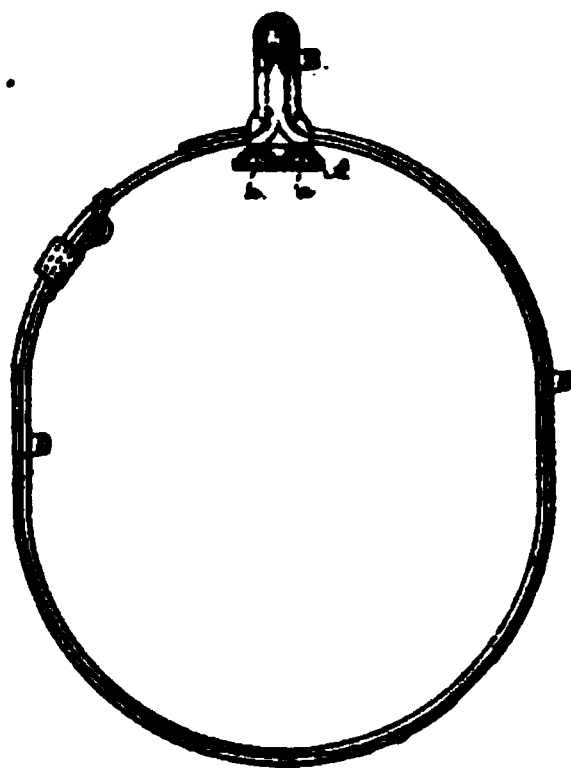
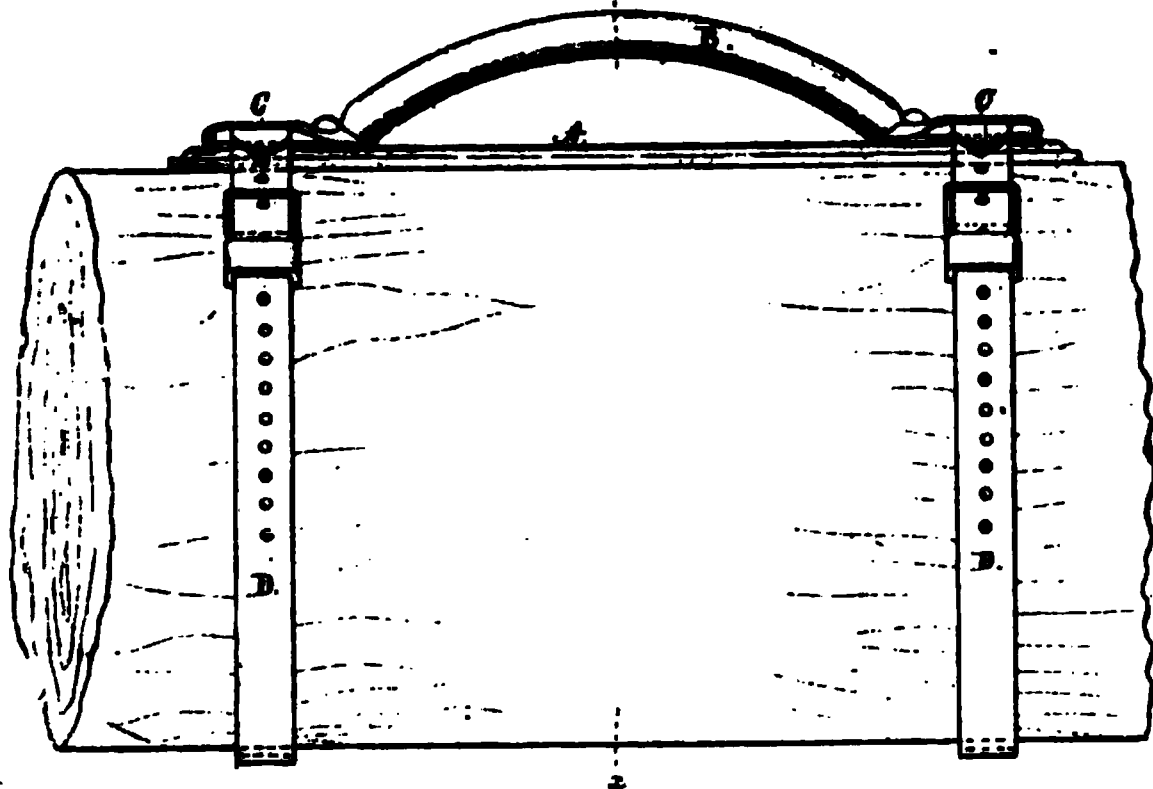


Fig. 2.

Fig. 1.



Witness,

*Chas H. Smith
Harold Perrell*

*George Crouch
Lemuel M. Perrell*

atty.

Statement of the case.

1. The rigid cross-bar, A, connecting the ends of the handle, B, and provided with loops, C, for the straps, D, substantially as and for the purposes set forth.

2. The loops, C C, made of the leather of the handle, and secured to the rigid cross-bar, A, as and for the purposes set forth.

3. The rigid cross-bar for a shawl-strap, made of sheet metal, corrugated, and covered with leather, as and for the purposes set forth.

Signed by me this 3d day of February, A. D. 1871.

GEO. CROUCH.

Witnesses :

CHAS. H. SMITH,

GEO. T. PINCKNEY.

GEORGE CROUCH, OF NEW YORK, N. Y.

IMPROVED SHAWL-STRAP.

Specification forming part of Letters Patent, No. 82,606, dated September 29, 1868.

To all whom it may concern :

Be it known that I, George Crouch, of the city, county, and State of New York, have invented, made, and applied to use certain Improvements in the Construction and Operation of Shawl-Straps ; and I do declare the following to be a full, clear, and correct description of the same, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon, in which—

Figure 1 is a front view of my improved shawl-strap. Fig. 2 is a cut section of the same.

In the drawings like parts of the invention are pointed out by the same letters of reference.

The nature of the present invention consists in certain im-

Statement of the case.

provements, as more fully hereinafter set forth, in the construction and operation of shawl-straps.

To enable those skilled in the arts to make and use my invention, I will describe the construction and operation of the same.

A shows the cross-piece of my improved shawl-strap, to which are attached the handle, B, and loops, C, through which loops are passed the straps, D, intended to receive and hold the shawl or other garment to be carried. This cross-piece, A, has heretofore been composed entirely of leather, and when placed in position upon the upper side of the shawl or other garment would not retain a horizontal position, owing to its being easily doubled up or bent out of position. To compel this cross piece, A, to retain a horizontal position above the shawl or other garment held by the straps, D, is the object of the present invention, and this is effected by combining with the cross-piece, A, the plates of corrugated metal, *a*, applied, as clearly shown in Fig. 2 of the drawings, upon the upper side of the cross-piece, A. I prefer the use of corrugated metal, as it affords sufficient strength for the purpose intended without materially increasing the weight of the strap. These plates, *a*, it is intended shall extend entirely across the cross-piece, A, and be protected by a covering of leather or other material.

Thus it will be seen that, when the shawl or garment has been secured within the straps, D, the piece, A, will necessarily retain its position, keeping the bundle in shape, and enabling its being more easily transported from its compactness.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In combination with a rigid cross-piece, A, constructed substantially as described, the handle, B, and straps, D, for the purposes indicated.

.GEO. CROUCH.

Witnesses :

A. SIDNEY DOANE,

H. W. HENLEY.

G. Crouch,
Shawl Strap.

N^o 82,606.

Patented Sep. 29, 1868.

Fig. 1.

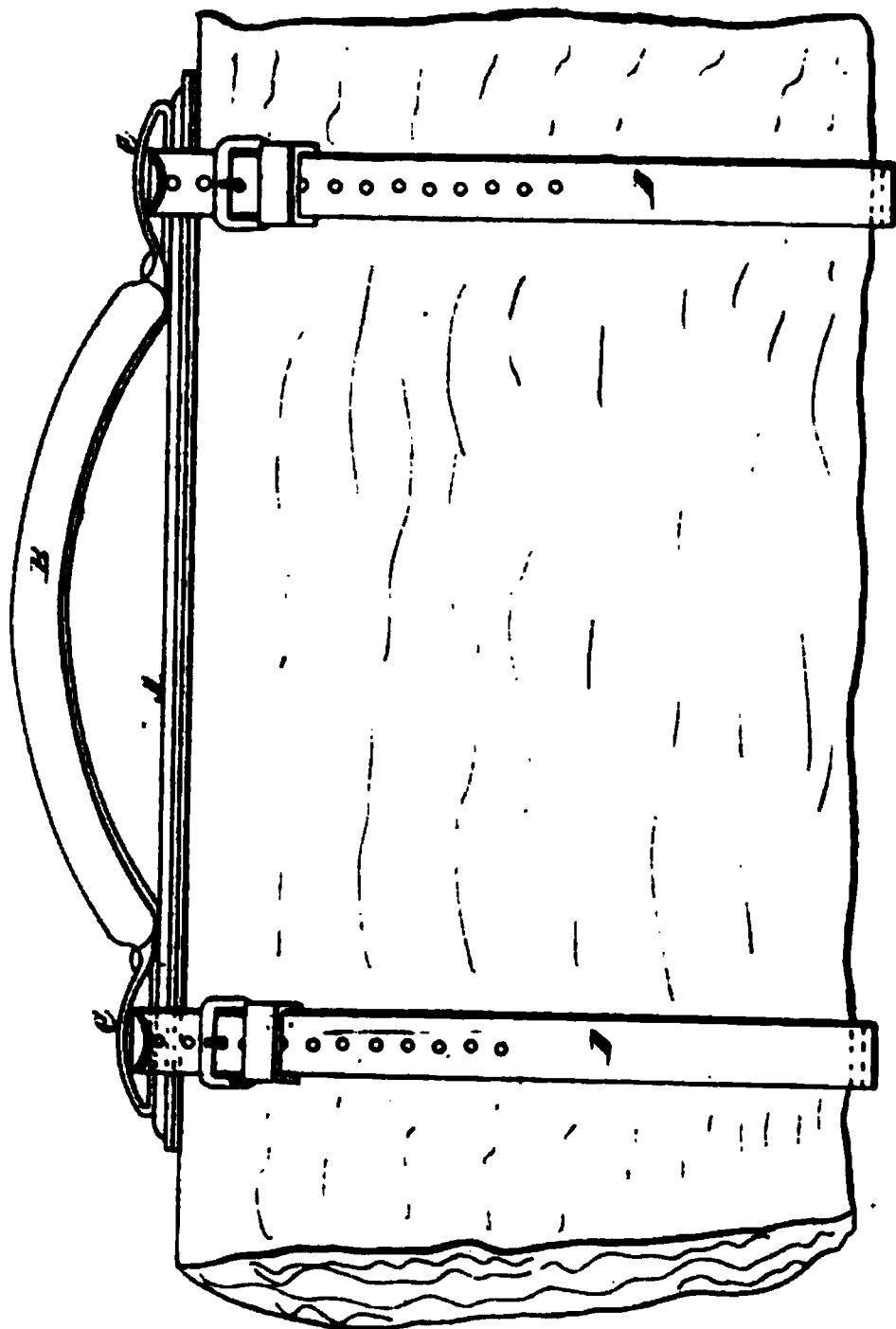
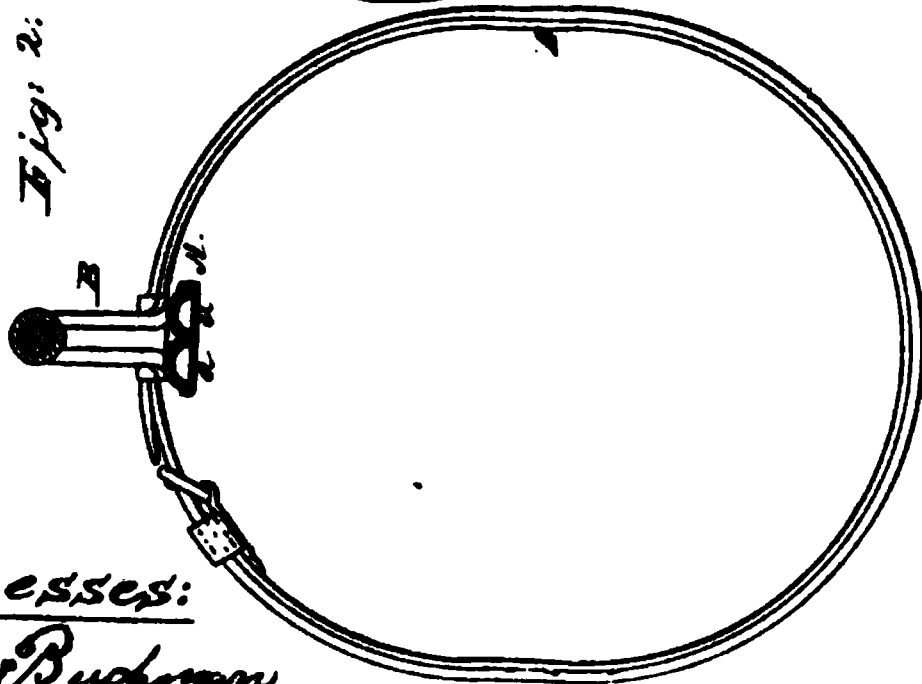


Fig. 2.



Witnesses:

John Buchanan
J. W. Stanley

Inventor:

George Crouch by
Lacey A. H. Lane

Opinion of the court.

Mr. E. B. Barnum, for appellant:

The only issue in the cause is the validity of the letters patent upon which suit was brought; the infringement is admitted.

The state of the art and the great step forward made by Crouch is told by Eustace in his testimony.

The testimony of the complainant Crouch is to the effect that he made this invention two or three years prior to the patent.

(The entire argument was on the alleged prior use of the invention.)

Mr. Arthur v. Briesen, for appellee.

(The entire argument was to prove the patent invalid on the ground of prior public use of the same thing by other inventors.)

Mr. Chief Justice WAITE delivered the opinion of the court:

The appellant in this case, complainant below, in describing his invention, when he applied for his patent, said that before his invention "Straps had been used to confine a shawl or similar article, in a bundle, and a leather cross-piece, with loops at the ends, had extended from one strap to the other; and above and attached to this leather cross-piece was a handle." He then said: "My invention consists of a rigid cross-bar beneath the handle, combined with straps that are passed around the shawl or bundle, such straps passing through loops at the ends of the handle." This was because the "leather cross-piece or connecting-strap" was "liable to bend and allow the straps to be drawn toward each other by the handle in sustaining the weight; * * hence the handle is inconvenient to grasp." From this, as it seems to us, the *rigid* cross-bar was, from the beginning, the controlling idea of the inventor. His object clearly was, not to bind and hold the bundle, but to keep the handle which the holder was to grasp from pressing the sides of the hand. Hence, he says:

Opinion of the court.

"I claim as my invention: 1. The rigid cross-bar, connecting the ends of the handle, and provided with loops for the straps. substantially as and for the purposes set forth;" that is to say, to bind and hold the bundle to be carried. The drawings which accompany this application show that the inventor had in his mind straps which were to pass over the rigid bar crosswise, but there is nothing to indicate that they might not pass over the ends or through openings in the bar itself. Next he claims, "Loops made of the leather of the handle, and secured to the rigid cross-bar," and then, "the rigid cross-bar for a shawl-strap made of sheet metal, corrugated and covered with leather."

Clearly the defendant, appellee, could not have infringed any other than the first claim. He did have a rigid cross-bar connecting the ends of a handle provided with openings, which were undoubtedly the equivalent of loops through which the straps to hold the bundle could pass, but he had no loops made of the leather of the handles, and no cross-bar made of sheet metal corrugated and covered with leather. Our inquiries are, therefore, confined to the validity of the first claim in the complainant's patent.

It is conceded in the patent itself that shawl straps with handles attached to a leather cross-piece having loops at the ends, were old. Eustace, one of the witnesses for the complainant, says he made his goods with a cross-piece of the firmest leather he could get, doubled and stitched, so as to render it firmer still. His object clearly was to keep the weight of the bundle from drawing the ends of the handle together so as to press against the sides of the hand.

The testimony leaves no doubt on our minds that handles fastened on rigid cross-bars and used to carry bundles were known long before the complainant's invention. Possibly in adjusting them to use, though this is by no means certain, the straps to bind the bundle were not passed through loops across the bar; yet it is clear, beyond all question, that the handle, rigid cross-bar, loops or their equivalent, and straps,

Notes and citations.

or equivalents, were used in combination to keep together and carry one or more articles in a package made by piling or rolling the articles together. Under these circumstances, it was no invention to stiffen by artificial means the leather cross-piece which had before been made as rigid as it could be by thickness, doubling, and stitching. All that was done by this inventor was to add to the degree of rigidity which had been used before. The addition of metal or other substance as a stiffener of the known cross-piece, which had already been made rigid in a degree, was not invention. The substantial elements of a well-known structure were thus, in no patentable way, changed.

This view of the case makes it unnecessary to follow counsel in their efforts to break down or sustain the testimony of individual witnesses. The thing which the complainant claims to have patented was substantially made and used long before his invention. All he did was, by the use of known equivalents for some of the elements of former structures, to make it somewhat better than it was ever made before. This is not patentable.

Affirmed.

103 U. S. 799.

Patent in suit:

No. 82,606. Crouch, G. September 29, 1868. Reissue No. 4,289. March 7, 1871. Shawl-Strap.

OTHER SUITS ON SAME PATENT:

Crouch v. Roemer, 2 Ban. & Ard. 637.

Notes and citations.

Cited :

IN TEXT-BOOKS :

2 Abb. Pat. Laws, 1886, p. 40.

Merwin on Pat. Invt., 1883, p. 198.

Walker on Pats., 1883, p. 26.

Statement of the case.

CHARLES R. VINCENT, APPELLANT, v. CHARLES
A. JUDD.*

Not reported elsewhere.† Oct. Term, 1880.

Decided December 6, 1880.

Particular patent. Infringement.

1. Claim 1 of letters patent, No. 34,458, Browne, J. W., February 18, 1862, for "The new manufacture of Improved Weather-Strip-Molding;" *held*, not infringed by the device constructed under letters patent, No. 92,613, Judd, C. A., July 13, 1869. (p. 189.)

This is an appeal from the Circuit Court of the United States for the Eastern District of Wisconsin.

The decree in the court below was as follows:

CHARLES R. VINCENT	}	In equity.
vs.		
CHARLES A. JUDD.		

This day came the parties by their counsel and filed their agreement in writing that the profits and gains which the defendant has received, or which have arisen or accrued to him by reason of the manufacture and sale of the weather-strip first described in the interlocutory decree in this cause, and the damages which the complainant has thereby sustained are the sum of one dollar.

Whereupon it is ordered, adjudged, and decreed that the said defendant do pay to the said complainant the said sum of one dollar, together with one-half the costs in this cause to be taxed, and in default of the payment of the same within ten days, that the complainant have execution therefor.

And it is further ordered, adjudged, and decreed that the complainant's bill of complaint, so far as it seeks an account-

* See Explanation of Notes, page III.

† This case has been omitted from all reports of U. S. Supreme Court cases, and is here published for the first time.

Statement of the case.

ing from the defendant for the manufacture, use, and sale by him of the kind of weather-strip covered by and described in the letters patent of the defendant as a weather-strip made of a metal backing, combined with a double-fold loop or cushion of elastic material, and to recover damages for such manufacture, use, and sale of the same by the defendant, and to enjoin him from the further manufacture, use, and sale of the same be and hereby is dismissed, and that the complainant pay one-half the costs to be taxed, and in default of payment of the same within ten days that execution be issued therefor. (June 11, 1877. Edward Kurtz, clerk.)

The drawings and specifications of J. W. Browne's letters patent and of Judd's letters patent under which the alleged infringing device was constructed, are as follows :

J. W. BROWNE, OF NEW YORK, N. Y., ASSIGNOR
TO JACOB MOTT VAN WAGNER, OF SUMMIT,
N. J.

Letters Patent, No. 34,458, dated February 18, 1862.

IMPROVEMENT IN WEATHER-STRIP MOLDING.

The schedule referred to in these Letters Patent and making part
of the same.

To all whom it may concern :

Be it known that I, J. W. Browne, of the State, city, and county of New York, have invented an improved Weather-Strip Molding, and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings which form part of this specification, in which—

Figure 1 represents a door and frame having the improvement applied.

Fig. 2 shows it applied to a picture frame back.

J. W. Browne.

Weather Strip.

N^o 34,458

Patented Feb. 18, 1862.

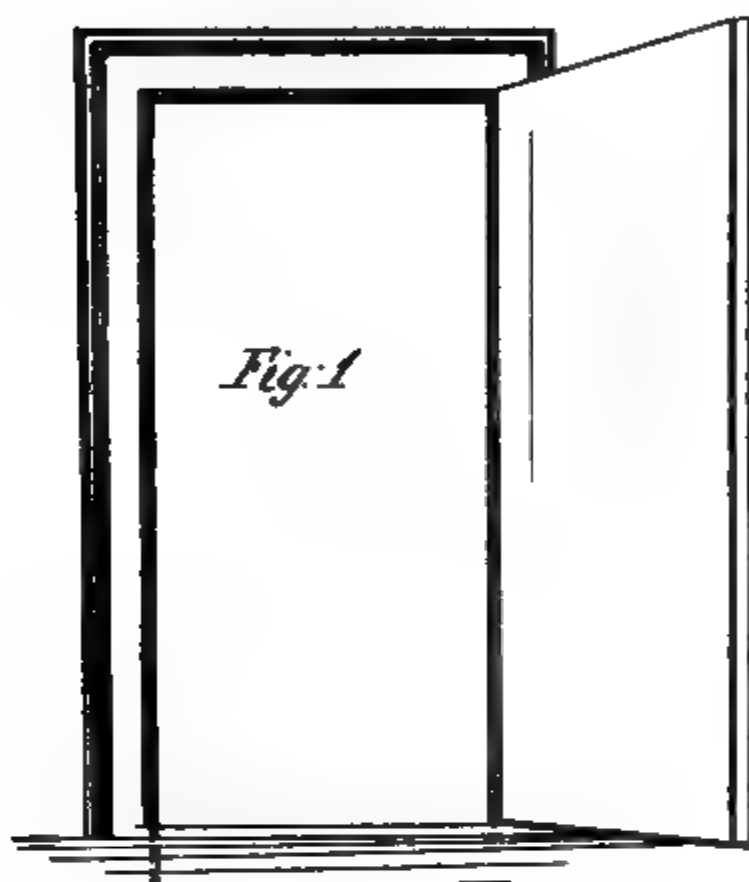


Fig. 1

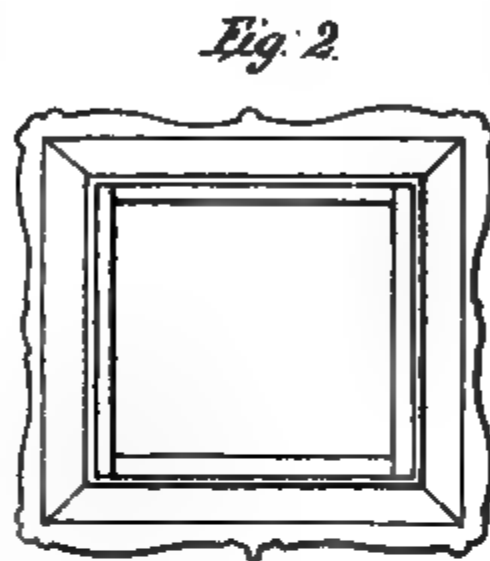


Fig. 2



Fig. 3



Fig. 5

Fig. 6

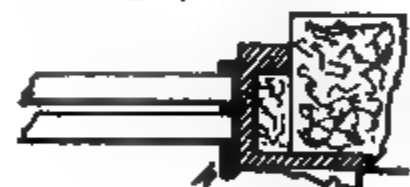


Fig. 7

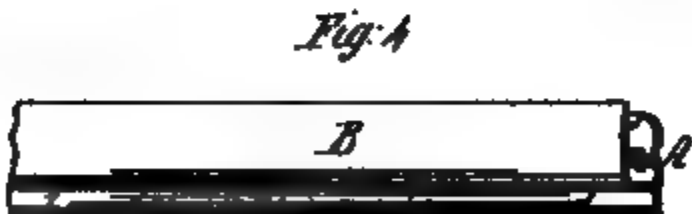


Fig. 4

Witnesses;
Chas. Smith
J. T. M. Douglass

Inventor;
J. W. Browne

Statement of the case.

Fig. 3 shows the back of the molding.

Fig. 4 shows the face or elastic side.

Figs. 5 and 6 are cross sections.

Fig. 7 is a section diagram showing the device applied to a window.

The object of my invention is to provide an efficient and permanent contrivance for excluding dust, air, moisture, light, heat, cold, etc., etc., etc., from crevices or apertures around doors and windows or wherever in general, crevices or apertures exist, which it may be desired to close up. To this end I employ felt, rubber, or other substance, having the quality of yielding and adapting itself to unequal surfaces, and back the same with a suitably rigid material such as wood or metal to support and maintain the felt in place, and these two are conjoined in substantially the manner hereinafter specified.

My improved molding is applicable chiefly in situations where the surfaces adjacent to the aperture to be closed are at right angles to each other. In all devices heretofore used the rubber is inserted and secured in a shallow groove in the edge of the molding, and the rubber is not only liable to become unfastened when the molding is accidentally split in the nailing of it on, and otherwise, and thus rendered inefficient and useless, but is also objectionable in furnishing but one edge or surface capable of yielding and adjusting itself to the inequalities of the surface to which the device is applied, so that the cold or dust, etc., as the case may be, though quite effectually excluded from the aperture from one side, is allowed to enter more or less at the other, and hence the device only partially remedies the evil it is designed to cure.

In order to obviate or overcome these difficulties and objections, and produce a perfect thing, the felt, rubber, or other elastic substance in my improved contrivance is so secured to the backing or rigid part, as to expose both the edge and side of the felt; and thus provides against all contingencies by presenting to the contact of both the contigu-

Statement of the case.

ous surfaces, a substance possessing the capacity of self-adaptation thereto. The same peculiarity of structure admits the nails used to fasten it on, through both the felt and the wood or metal so that, if the latter become injured or mutilated, the felt will still retain its place, all which will hereinafter more fully appear.

To enable others to make and use my invention, I will proceed to the description of the same and mode of its application and use.

I usually make my improved weather-strip molding of a strip of sheet metal, A, (see annexed drawing,) doubled or folded over on a strip of felt, rubber, or other elastic substance, B. The metallic part may have beads or corrugations longitudinally, for stiffening purposes. That part of the metal folded over on the felt is quite narrow (1) and has its edge turned down or pressed into the felt to prevent the latter from escaping from the fold; and in addition, the metal may be creased or indented on the opposite side (2). The narrow fold, 1, leaves a width of felt of nearly the same dimensions as the metallic side of the molding, and said felt extending beyond the upper edge of the metal shows a felt margin, 3, on the metal side nearly as wide as the metal margin on the felt side. Fig. 3 shows the former and Fig. 4 the latter.

In applying the molding the elastic or felt side is placed against a fixed part, as the jam of a door or window frame, and the felt edge against the moving or removable part, as a window-sash, door, etc., so that the molding presents under all conditions a yielding and self-adapting capacity to both the surfaces contiguous, and thus doubly ensures the closure of the aperture against the entrance of air, dust, etc., from any side. In Fig. 6, the dotted line, *a*, represents a door or moving part, and the line, *b*, the frame or fixed part.

Fig. 1 shows a door and frame with the molding applied; the line, *c*, is the usual rabbet receiving the edge of the door, and the line, *c'*, represents the edge of the felt or

Statement of the case.

rubber. The molding is also used for rendering show cases, picture-frame-backs, etc., dust-tight. Fig. 2 shows a picture-frame-back; the molding is fastened on the frame with the felt edge, pressing against the picture-back. It is also applicable to apertures in flat surfaces, and for such places, the molding is sometimes made with the metal folded over both edges of the felt. Fig. 7 is a section-diagram of a window with the molding applied, having a section (4) of the molding as made of wood; it is here exhibited as taking the place of the usual "stop-bead." Many other forms could be illustrated, varying with the situations, etc., but the improvement is not confined to any special form, except generally that herein shown and described. What I claim as my invention and desire to secure by Letters Patent, is—

The new manufacture of improved weather-strip molding, substantially as described.

J. W. BROWNE.

Witnesses:

E. HENRY SMITH,
S. T. McDOUGALL.

CHARLES A. JUDD, OF MILWAUKEE, WISCONSIN.

Letters Patent, No. 92,613, dated July 13, 1869.

IMPROVED WEATHER-STRIP.

The schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, Charles A. Judd, of Milwaukee, in the county of Milwaukee, and State of Wisconsin, have invented a new and useful Improvement in Weather-Strips; and I do hereby declare the following to be a full, clear, and

Statement of the case.

exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a door-way, furnished with my weather-strip along the casing.

Fig. 2 is a perspective view of a door, with my weather-strip applied along its lower ledge.

Figs. 3 and 4 exhibit, in cross-section, the manner of constructing the weather-strip.

Fig. 5 exhibits the course of manufacture.

This invention consists in constructing a weather-strip of metal and some elastic material, as India rubber, united in such a way that the article may be produced in pieces of indefinite length, to be cut and secured in place as desired.

That others may understand the construction and manner of using my weather-strip, I will particularly describe it.

The metallic portion, A, of my weather-strip is formed in lengths as may be desired, and, by passing this strip between suitable rollers, it is made to assume the form shown in Fig. 5.

The strip of elastic material, B, previously prepared in a strip of proper width and length, is then placed with one edge within the metallic fold, as shown in Fig. 5, and the whole is again subjected to the action of suitable machinery, which folds the metal and elastic substance again upon itself, so as to form the sectional shape shown in Figs. 3 and 4.

The elastic material is thus clamped and confined between the parts of the metallic folded strip, so that it cannot be withdrawn, and the whole may be secured in place by nails or screws, as shown in the Figs. 3 and 4.

If desired, the surface of the metal may be ornamented by embossing or corrugations, as it passes through the machine which folds it.

The nails or screws which retain the weather-strip in place, as will be observed, pass through both metal and elastic material, so that there can, by no possibility, be any displacement of the latter, while in use, so long as the screws or nails retain their places.

For use in many situations, the double fold of elastic

C. A. Judd
Weather Strip.

N^o 92613.

Patented Jul. 13. 1869

Fig. 1.

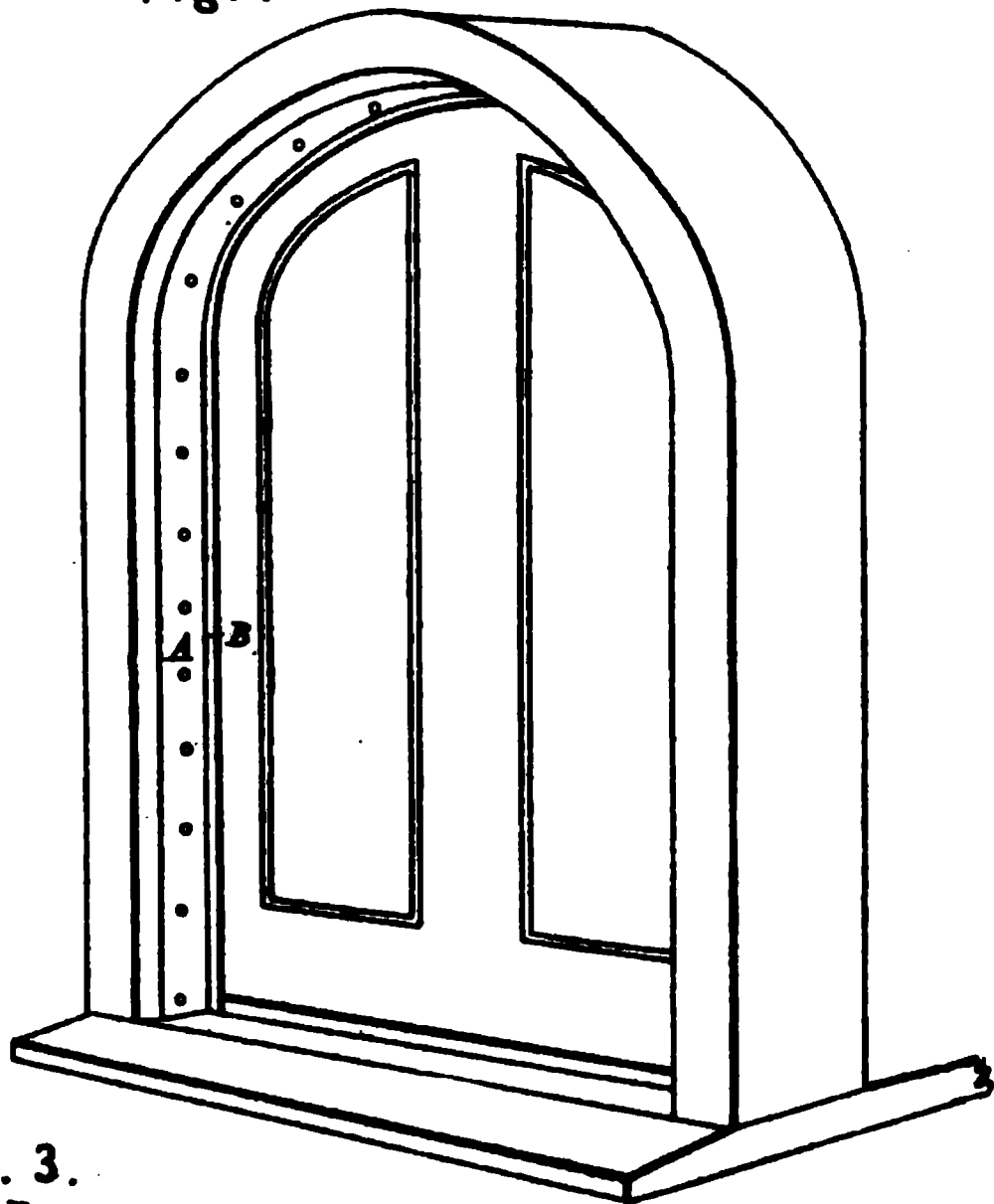


Fig. 3.

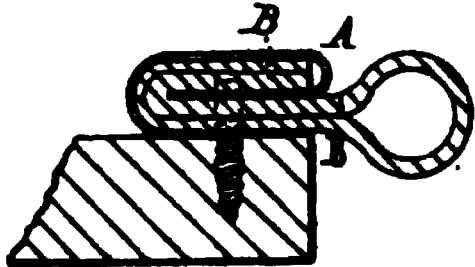


Fig. 4.

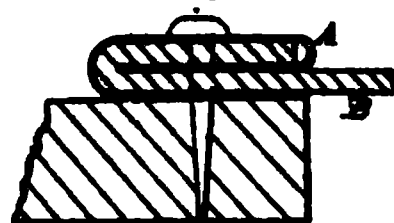


Fig. 2.

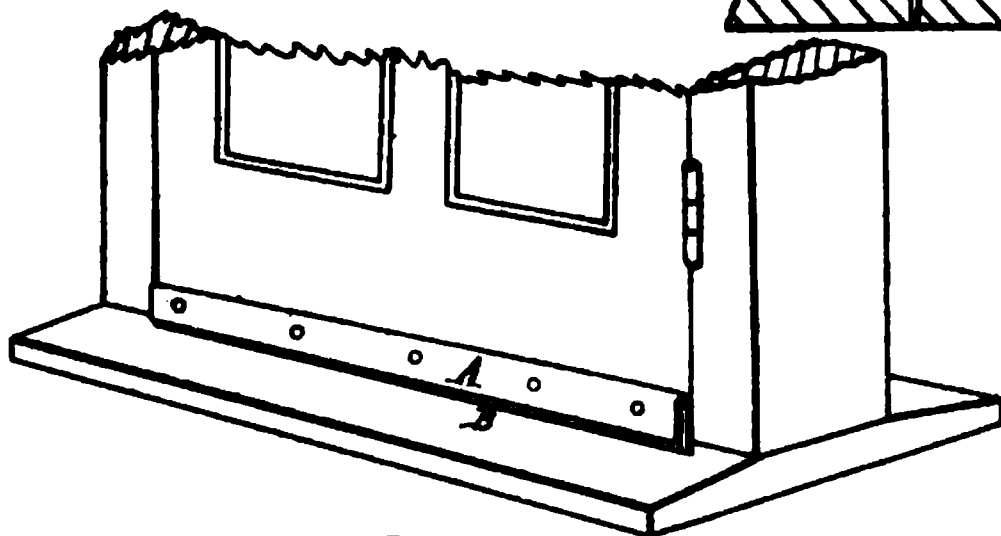


Fig. 5.



Witnesses.

J. T. Deale.
J. L. Miller.

Inventor.

C. A. Judd
By his atty.
R. D. Smith.

Argument of counsel.

material, shown in Fig. 3, will be preferable, as, for instance, along a door or window-casing, as shown in Fig. 1, while the single fold shown in Fig. 4 will be most advantageous when used across the lower edge of a door.

It is not necessary to specify the various applications of this invention to the exclusion of wind, dust, etc., as they will occur to any one who bestows thought upon the subject.

This invention forms a very neat and convenient article, which may be manufactured and sold in lengths to suit. It can be secured in place by any person. It may be made ornamental in a high degree, and will not, under any circumstances, present an objectionable appearance wherever applied, and it will, in the most complete manner, exclude dust and wet.

I do not claim a weather-strip, formed of a metal strip enclosing rubber, as shown in the patent of C. Merrill, 27th May, 1862; but

What I do claim, and desire to secure by Letters Patent, is—

The weather-strip for doors and windows, formed of the rubber strip, B, and metal strip, A, when the same are arranged as described, and the united strip folded upon itself, substantially as and for the purpose set forth.

CHAS. A. JUDD.

Witnesses:

C. E. GOODRICH,
FRED. W. CASS.

Mr. Frederic H. Betts, for appellant.

The claim of the letters patent is as follows: "The new manufacture of improved weather-strip molding, substantially as described."

It is the established rule that the claim of a patentee is to be construed with reference to the specification.

Seymour v. Osborne, 11 Wall. 516 [8 Am. & Eng. 290;] Curtis on Pats. 3d Ed. §§ 225–227; Roberts v. Dickey, 1 O. G. 4; Fuller v. Yentzer, 11 O. G. 924.

Argument of counsel.

Under this well-known construction, it is obvious that the claim of the patent is to be read as though it said: "I claim the new manufacture of improved weather-strip molding, substantially as described; that is, one in which the elastic material is so combined with a rigid backing, and the rigid backing is so shaped that when such weather-strip is fastened to a window frame, or to one of two surfaces at right angles to each other, the sides of the flexible material will be pressed tight against the frame, and the edge of the flexible material will be pressed tight against the sash, and thereby cold or dust be prevented from entering either *under* or past the *edge* of the weather-strip molding, and all liability of the weather-strips becoming *unfastened* if the molding be split, is avoided." *Such* a weather-strip molding, having *such* capacity, if applied to the position indicated, is the subject matter of the claim of the patent.

If the patent be construed, as we have shown above, it must be construed under the established rules of law, there is hardly any question but that the defendant has infringed.

The rule is well settled that an infringer cannot protect himself by the allegation that he has improved upon the patented article, unless his improvement is something which alters the essential character and operation of the article. This is not so in this case, the Judd strip embodies all of the features which distinguish the Browne strip from other inventions; whether it also embodies other additional features is immaterial to the present controversy.

"Although a man may make valuable improvements upon a patented machine and obtain patents for them, he cannot use the elements of the original machine without infringing on the first patent." *La Baw v. Hawkins*, 6 O. G. 724; see also *Foss v. Herbert*, 2 Fish. 31; *Fales v. Wentworth*, 5 Fish. 302; *Marsh v. Seymour*, 11 O. G. 723; *Cochrane v. Deener*, 94 U. S. 786 [11 Am. & Eng. 288.]

In *Winans v. Denmead*, 15 How. 330 [6 Am. & Eng. 107,] the court said, "It is the duty of courts and juries to look through the form for the substance, for that which entitled

Notes and citations.

the inventor to his patent. Where that is found, there is an infringement, and it is not a defence that it is embodied *in a form not described and in terms claimed by the patentee.*

See also Sickles v. Borden, 3 Blatch. 535 ; Leavitt v. Higgins, 1 Fish. 537.

There was no brief filed for the appellee.

Mr. Chief Justice WAITE delivered the opinion of the court :

A majority of the court is of the opinion that the court below was right in deciding that the double fold strips manufactured by the appellee were not an infringement of the patent under which the appellant claims.

As that was the only question argued here the decree is affirmed and no further opinion will be delivered.

Omitted in U. S.

Patent in suit :

No. 34,458. Browne, J. W. February 18, 1862. Improvement in Weather-Strip Molding.

Argument of counsel.

DAVID C. PRICE, APPELLANT, v. JAMES E. KELLY.*

Bk. 26, L. ed. 634. Oct. Term, 1881.

[20 O. G. 1452.]

Affirming *Ibid*, 2 Ban. & Ard. 534.

Submitted October 12, 1881. Decided October 25, 1881

Burden of proving infringement.

1. The appellant, upon whom rests the burden of proving infringement, not having produced the necessary proof, the decree below is affirmed. (p. 192.)

Appeal from the Circuit Court of the United States for the District of Minnesota.

The case is sufficiently stated by the court.

Messrs. J. J. Noah and C. K. Davis, for appellant:

We urge that the claim of the appellant upon all the patents in evidence, is based upon the *combination* evidenced thereby, and the question recurs as to whether a combination is *per se* patentable.

We insist that it is, conceding that the requisites of a patentable combination are identical with those of any other patent, and that it must contain the elements of novelty and utility. Those features must exist only in the combination as an entirety, and not in the different materials which compose it.

If the combination contain those essential features, the purpose to which it is to be applied, whether new or old, is immaterial. *Buck v. Hermance*, 1 Blatch. 404; *Foote v. Silsby*, 1 Blatch. 458; *Hall v. Wiles*, 2 Blatch. 199. *Foote v. Silsby*, 2 Blatch. 270.

Upon the question of utility, the proof places that beyond question, and the infringement by the defendant com-

* See Explanation of Notes, page III.

Opinion of the court.

pletes the chain of testimony in this regard, and is self-confessed.

The testimony clearly shows that until the combination of appellant made its appearance, *no similar contrivance was in existence, and that the appellant for the first time introduced to the public a circus seat which was portable, safe, convenient, and valuable.* The inventor meets the defendant, Kelly, the owner of a circus and explains the contrivance to him, exhibiting the full-sized model and giving him the measurements. Mr. Kelly declines to invest in these patented seats, but the next season his circus show appears with these identical contrivances in full operation.

That these devices were similar cannot be disputed. Not only do they not contain a distinction without a difference, but in fact, there is neither a distinction nor a difference in an essential feature. And when we consider their application to an identical purpose, and that neither were applicable to any other purpose, the fact of infringement is complete.

No counsel appeared for appellee.

Mr. Chief Justice WAITE delivered the opinion of the court:

This case is very imperfectly presented. No one appears for the appellee, and the record is incomplete. The bill charges the appellee with an infringement of certain letters patent issued to and owned by the appellant. The answer attacks the validity of the patent, and denies the infringement. The court below, without passing on the other questions, held there was no infringement. The appellee evidently claimed under a patent to himself, which, with the accompanying drawings and certain models, was in evidence. This evidence is not before us. Neither the patent nor the drawings are in the record, and the models have not been brought up. Nor have we been able to find anywhere in the record a satisfactory description of the structure which

Omitted in U. S.

Notes and citations.

the appellee uses. The burden of proving the infringement is on the appellant. The necessary proof in this respect has not been made, and *the decree below is, consequently, affirmed.*

Omitted in U. S.

Notes:**Burden of proving infringement is on complainant:**

Agawam Co. v. Jordan, 7 Wall. 583 [8 Am. & Eng. 24.]
Seymour v. Osborne, 11 Wall. 516 [8 Am. & Eng. 290.]
Mitchell v. Tilghman, 19 Wall. 287 [9 Am. & Eng. 174.]
Fuller v. Yentzer, 94 U. S. 288 [11 Am. & Eng. 138.]
Fuller v. Goodrich, 94 U. S. 299 [11 Am. & Eng. 176.]
Bates v. Coe, 98 U. S. 31 [12 Am. & Eng. 150.]
Imhaeuser v. Buerk, 101 U. S. 647 [12 Am. & Eng. 443.]

Patents in suit:

No. 125,329. Price, D. C. April 2, 1872. Portable Show and Circus Seats.
No. 134,486. Price, D. C. December 31, 1872. Portable Show and Circus Seats.
No. 163,537. Shuey, Wm. H. May 18, 1875. Circus Seat.

OTHER SUITS ON SAME PATENT:

Price v. Kelly, 2 Ban. & Ard. 534.

Argument of counsel.

EDWARD MELLON ET AL., APPELLANTS, v. DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY.

Bk. 26, L. ed. 929. Oct. Term, 1881.

[21 O. G. 1616.]

Submitted March 24, 1882. Decided April 3, 1882.

License. Burden of proof. Escrow.

1. Where a license executed by the complainant is in the possession of the defendant and is produced by it on the trial, and on its face is absolute and without any limitation or condition, the burden of proof is upon the complainant to show that it was delivered as an escrow. (p. 197.)

Appeal from the Circuit Court of the United States for the Western District of Pennsylvania.

The case is stated by the Court.

Messrs. Hector P. Fenton and Furman Sheppard, for appellants :

The question presented by this record is purely one of fact, and it is earnestly contended that the Court below erred in its conclusion. The appellees' averment of a perfect execution and delivery of the instrument was not supported or proven, outside of the presumptions arising from the paper itself, except by the testimony of a single witness, John Brisbin, and he the person who, as president of the company at that time, was instrumental in procuring the appellant to execute the paper. Certain facts are admitted on both sides. 1st. That the paper was actually signed by Mr. Mellon. 2d. That the appellees desired a license. 3d. That the price asked for it was not less than \$3,500. 4th. That the appellees were willing to pay a price not exceeding \$1,000 for it, and 5th. That no money was ever paid for it.

It plainly appears that after the invention had been made,

* See Explanation of Notes, page III.

Opinion of the court.

the patent issued, and Mellon had left the service of the company, the latter made a settlement with him for all royalties to that date, April 3, 1867. This transaction was followed, as Mellon testifies, by concessions and negotiations between him and John Brisbin, president of the company, relative to the future use of the invention by the company, and the terms upon which the latter would be permitted to use it.

Mellon states that he offered the company a license for five thousand dollars, finally agreeing to accept thirty-five hundred, and that Brisbin, disclaiming any authority to make a contract of that character, promised to bring the matter before the board of managers, but refused to do so unless Mellon would sign a license in due form, which Brisbin then prepared and Mellon executed. The former testified that it was signed voluntarily, and to take effect immediately as a license and without conditions affecting its validity as such. On the other hand, Mr. Mellon testified that Brisbin insisted on execution of a formal license before he would present the subject to the directors; and that when signing it he declared it to be simply a submission of terms, and, though in form a license, to be considered and take effect as such only in the event of the company accepting his proposition, and paying thirty-five hundred dollars therefor.

The company had a few weeks previously recognized the validity of the patent, by paying Mellon for all tires made and applied to engines to that date. Why then should Mellon voluntarily give to it a valuable license, worth several thousand dollars, without any consideration whatever? It is highly improbable that he would give such a paper.

That this was not a gift or gratuity, is plain from its terms and from the subsequent action of Brisbin in offering Mellon \$250 for his license.

No counsel appeared for appellee.

Mr. Justice Woods delivered the opinion of the court:

The bill charged infringement of letters patent, dated Oc-

Omitted in U. S.

Opinion of the court.

tober 2, 1866, granted to Edward Mellon, one of the complainants, for an improvement in the mode of attaching tires to wheels of locomotives. Mellon had assigned a one-half interest in his letters patent to William Matthews and they two were joined as complainants.

The defendant pleaded that while Mellon was the sole owner of the patent, to wit, on May 15, 1867, he had, for a valuable consideration, granted a license in writing to the defendant for the full term of the patent to use the improvement described therein upon all its locomotives, locomotive tires, and wheels.

The complainants took issue on this plea. The Circuit Court heard the cause upon the pleadings and evidence and dismissed the bill. The appeal of the complainants has brought up the case for our consideration.

To support the issue on its part the defendant produced a license in writing, signed and sealed by Mellon, dated May 15, 1867, which, its execution being admitted by Mellon, proved every allegation of the plea.

The appellants asserted, however, that the license had been delivered as an escrow to John Brisbin, the president of the appellee, in order that he might present it at the next meeting of the board of directors of the company, and if the board consented to pay and did pay \$3,500 for the license, it was to take effect, otherwise not; and that nothing whatever had been paid for it. The appellee denied this, and asserted that the delivery was upon a valuable consideration received by Mellon; was absolute and without condition or reference to any future contingency.

As the license is in the possession of appellee and is produced by it on the trial, and on its face is absolute and without any limitation or condition, the burden of proof is upon the appellants to show that it was delivered as an escrow.

The only evidence to maintain their side of the controversy is the deposition of Mellon. On the part of the appellee is the testimony of Brisbin, its president, to whom the license

Notes and citations.

was delivered. His deposition contains a direct and explicit denial of the testimony of Mellon in reference to the delivery of the license, and he is corroborated by the evidence of another witness, who was superintendent of the rolling stock of the appellee at the time the license was delivered.

The case turns upon a single question of fact. The burden of proving that fact is on the appellants, but the weight of the evidence is with the appellee.

The decree of the Circuit Court dismissing the bill was right, and must be affirmed.

Omitted in U. S.

Patent in suit:

No. 58,447. Mellon, E. Oct. 2, 1866. Locomotive Wheels.

[illegible]

[illegible]

Syllabus.

LEHIGH VALLEY RAILROAD COMPANY AND ASA PACKER, PRESIDENT OF SAID COMPANY, APPELLANTS, v. EDWARD MELLON ET AL.*

104 (14 Otto) U. S. 112-119. Oct. Term, 1881.

[Bk. 26, L. ed. 639; 20 O. G. 1891.]

Argued October 12, 1881. Decided October 25, 1881.

Construction of claims. Particular patent construed, limited, and not infringed. Patentee is bound by his claim. Infringement cannot be presumed.

1. In view of Act 1836, sec. 6, substantially re-enacted in Act 1870, sec. 26, and R. S., sec. 4888, which requires an applicant for a patent not only to deliver a written description of his invention or discovery, but to particularly specify and point out the part, improvement, or combination which he claims as his own invention or discovery, and in view of the practice of the Patent Office under these provisions, and the decisions of this Court, we think that the scope of letters patent should be limited to the invention covered by the claim, and that, although the claim may be illustrated, it cannot be enlarged by the language used in other parts of the specification. (p. 217.)
2. The claim of letters patent, No. 58,447, E. Mellon, October 2, 1866, Attaching Tires to Wheels of Locomotives, for "the wheel with the curved flange upon the inner edge, in combination with a tire with a rounded corner to fit said curved flange as set forth," construed and limited, in view of limitations in the description to exclude the use of a flange with a square corner, and *held*, that infringement was not proved. (p. 217.)
3. An inventor cannot go beyond what he has claimed and insist that his patent covered something not claimed, merely because it is to be found in the descriptive part of the specifications. (p. 218.)
4. Where the answer, which was under oath, denied infringement, *held*, that infringement must be shown by satisfactory proof; it cannot be presumed. (p. 218.)

*See Explanation of Notes, page III.

Statement of the case.

[Citations in the opinion of the court:]

Burns v. Meyer, 100 U. S. 671 [12 Am. & Eng. 342.] p. 217.

Keystone Bridge Co. v. Phoenix Iron Co., 95 U. S. 274 [11 Am. & Eng. 364.] p. 217.

Appeal from the Circuit Court of the United States for the Eastern District of Pennsylvania.

The case is stated by the court.

The specification and drawing of Hodge's letters patent and the drawings of Mellon's letters patent are as follows:

NEHEMIAH HODGE, OF ADAMS, MASS.

Letters Patent, No. 8,526, dated November 18, 1851.

The schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, Nehemiah Hodge, of Adams, in the county of Berkshire, and State of Massachusetts, have invented a new and useful improvement in Railroad Car Wheels, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing which forms part of this specification and in which—

Figure 1 is a side elevation of a Railroad Car Wheel with my improvement applied thereto, and

Fig. 2 is a section of the same in a plane passing through the axis.

My invention consists in making a car wheel in not less than two concentric parts and connecting these parts by vulcanized India rubber, or other analogous elastic material interposed between them, whereby the annular or outer part of the wheel is insulated from the central or inner part by a substance that will not transmit vibrations from the rim to the center or axle of the wheel, whether such vibrations be lateral or radial in direction.

My invention consists further in a method of connecting the several parts of a sectional wheel by interposing between

Statement of the case.

the parts to be connected an elastic substance in a compressed state, which by its tendency to expand in all directions holds the parts of the wheel in place without the use of screws, bolts, keys, or other fastenings liable to work loose.

The wheel represented in the accompanying drawings to exemplify my invention consists of a body, A, and of a rim, B, of metal, which are connected by an annular cushion of vulcanized India rubber, C, surrounded by a series of annular segments, D, of metal.

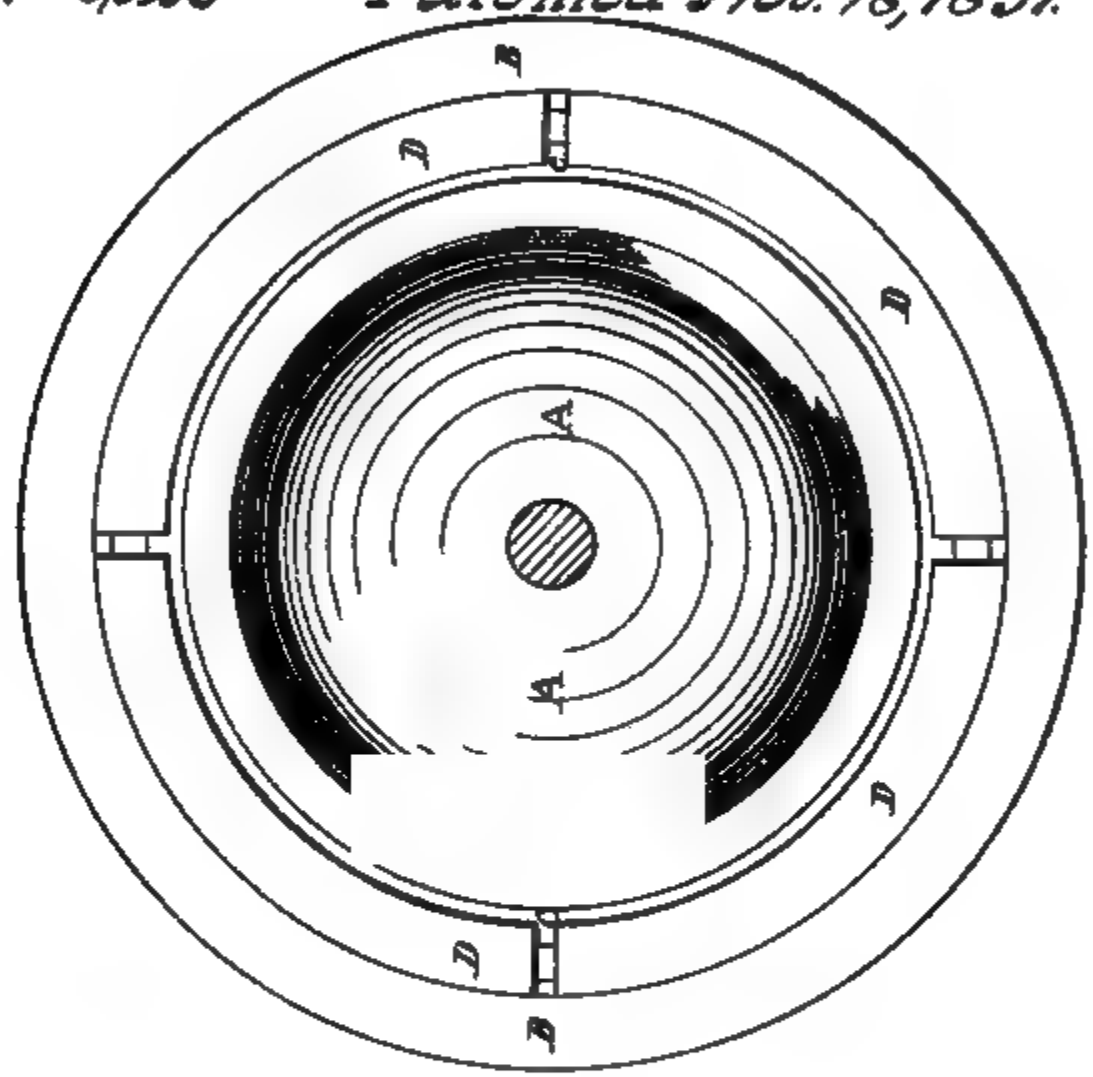
The body, A, is made with a central hub in the usual manner to connect it with the axle, and at its periphery has a groove formed in it to receive the inner side of the ring of India rubber, C, which enters it in the manner of a tongue; the ring of India rubber is made in segments for the sake of convenience. The India rubber is surrounded by a metal ring, D, made in segments whose inner periphery has the form of a hollow cylinder with an annular groove sunk in it, that corresponds with the groove on the periphery of the body and receives the outer side of the India rubber ring; the outer periphery of these segments is in the form of the frustum of a cone with an annular groove running round it, the side of which at the base of the frustum is at right angles to its axis, and the side next the top of the frustum inclines outwards from the axis at an angle of about 45° ; the exterior periphery of the ring of segments, D, thus formed, fits the inner periphery of the rim, B, which in shape is the exact counterpart, a piece is cut off the end of each of the segments to allow them to be compressed upon the India rubber in the operation of putting the wheel together; the thickness of the outer or narrow edge of the segments should not exceed the thickness of the annular space between the body and rim near the outside of the wheel, through which it has to pass for a purpose to be hereafter described. The rim is a ring whose inner periphery as above described is the counterpart of the outer peripheries of the segments and its outer periphery or tread made in the

N. Hodge.

Car Wheel.

Nº 8,526

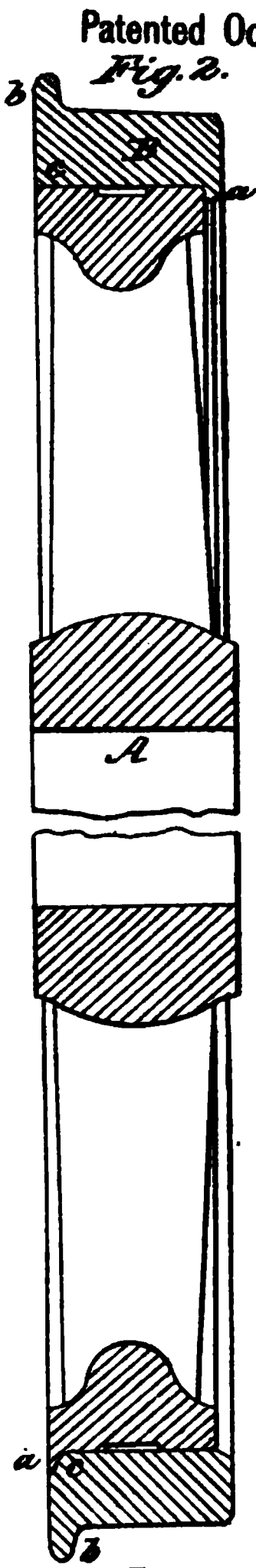
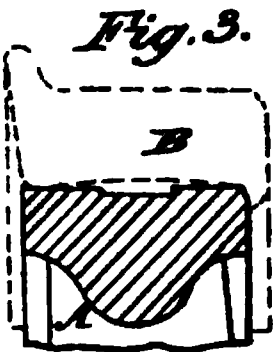
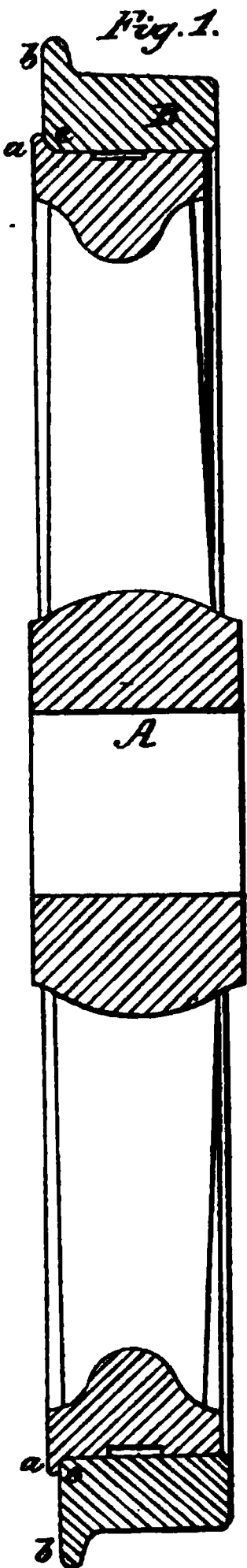
Patented Nov. 18, 1851.



E. MELLON.
Car Wheel.

No. 58,447.

Patented Oct. 2, 1866.



Witnesses.
G. T. D. Huntington
Wm. E. L. Ligon

Inventor.
E. Mellon
By [Signature]

Statement of the case

usual form of the frustum of a cone with a flange round its base.

The several parts of the wheel being shaped as described, they are next to be put together, which is done by placing the ring of India rubber in the groove on the periphery of the body, A; the segments, D, are then applied to the outside of the India rubber which enters the grooves on their inner periphery; the rim is now laid upon a firm bench, with its widest end upwards, and the body surrounded by the ring of India rubber and the conical segments, is forced down, the smallest end foremost, into the rim, by means of a hydraulic or other powerful press, in a manner similar to that in which car wheels are commonly forced onto their axles. As the smallest end of the segmental ring enters the wide end of the rim, the segments come in contact with the inner surface thereof, which gradually converges towards the outside of the wheel, and as the segments move downward compresses them upon the India rubber and condenses the latter until the outer diameter of the small end of the segments is contracted sufficiently to pass the narrowest part of the interior of the rim, when the elasticity of the India rubber will again force the segments to expand until the inclined or beveled side of the groove is brought to coincide with the chamfered inner corner of the outer edge of the rim and the square side of the groove fits into the rabbeted inner corner of the inside of the rim; the pressure may now be removed and the several parts of the wheel be connected together in their proper relative positions, with greater or less firmness, as the radial dimensions of the India rubber ring, before the wheel was put together, exceeded more or less the radial dimensions of the groove or space which it now occupies between the segments and the body of the wheel, and the force required for pressing the parts of the wheel together, will be in like manner greater or less. If it should be required to take the wheel apart it is merely necessary to turn it over and apply the pressure against the opposite side of the body and segments; the

Statement of the case.

power required to force out the segments and body from within the rim will be greater than that required to enter them, as the angle formed with the axle by the surface of the chamfer on the inner corner of the outside of the rim is greater than the angle formed with the axle by the inner surface of the rim, within the chamfer. The ring of India rubber in a wheel thus constructed acts as an annular key or tongue to keep the body and rim in the same plane by entering their adjacent grooves, and holding itself there by its own elasticity, so that the inner and outer parts of the wheel cannot separate in running without either being broken or else shearing the ring of India rubber into two annular pieces, the latter being next to impossible and the former being much less likely to happen in this than in the common wheel. The proportion which the radial width of the India rubber before insertion in the groove, must exceed the radial width of the space in the wheel for its reception, in order that the rubber may be subjected to the proper amount of compression to cause it to act with the requisite amount of elastic force, will depend upon the texture of the rubber itself, as for example, whether it be more or less dense or hard, and also upon the thickness and width of the elastic ring itself, and whether also, the track it is designed to run upon, be rough or smooth; and taking these modifying circumstances into consideration, each constructor will have to exercise his own judgment as to the proportions most suitable in each particular case.

It will now be seen that in the wheel thus constructed, the rim is insulated from the body by the ring of India rubber, which being elastic, yields to pressure in any direction, and acts as a spring cushion to intercept the jars produced by irregularities in the track or in the tread of the wheel; it is evident that this office of the spring cushion is exerted in a lateral as well as in a radial direction, for the body and rim are retained in their relative positions solely by the ring of rubber which is elastic in every direction, the wheel, therefore, is essentially elastic and relieves the car from the jars

Statement of the case.

resulting from the striking of the wheel-flange against the side of the rail, as well as from those due to the passage of the tread of the wheel over sudden elevations and depressions on the top of the rails.

The method I have described of constructing this elastic wheel is that which I prefer, but it will be evident to the skilful engineer that the wheel I have described may be modified in form and construction without affecting the principle of universal elasticity which this invention embodies; thus, for example, the rubber may be inserted in the form of a disconnected series of blocks, instead of in the form of a continuous band; or the rim and body of the wheel may be made in any known or approved way, and if it be found that the elastic band allows too much lateral play, ears or brackets may be secured to the body of the wheel to limit the distance to which it, or the rim can yield laterally.

If it is found advisable to increase the elasticity of the wheel in a lateral direction, this can be done either by increasing the radial width of the band of India rubber and the space between the body and rim of the wheel, or by inserting in the wheel several concentric cushions of rubber.

The foregoing modifications are merely suggested for the purpose of indicating the great variety and extent of changes that may be made in the structure of the wheel, without any departure from the principle which I have invented, and which is susceptible of almost unlimited variation while still preserving its essential characteristic, which is the insulation of the tread or rim of the wheel from the axle, hub, or main body of the same, by an intervening cushion of some elastic substance that will yield in every direction so as to impart to the wheel both radial and lateral elasticity.

What I claim as my invention and desire to secure by letters patent is connecting the tread or rim of a car wheel to the hub or central part thereof by means of India rubber or other analagous elastic material, such elastic material being connected with the outer periphery of the central part

Argument of counsel.

of the wheel by a groove on the latter, or its equivalent, and to the inner periphery of the rim, also by a groove thereon, or its equivalent; the India rubber holding itself in both grooves by its elasticity and giving to the wheel lateral as well as radial elasticity, as herein described.

I also claim the grooved segments constructed substantially as herein described and interposed between the India rubber and the rim, for the purpose of facilitating the insertion of the India rubber into the space between the rim and central part of the wheel and its removal therefrom as herein set forth.

In testimony whereof I have hereunto subscribed my name.

NEHEMIAH HODGE.

Witnesses:

P. H. WATSON,

J. L. SMITH.

Messrs. James E. Gowen, Andrew McCallum, Alex. D. Campbell, Edward N. Dickerson, and Edward N. Dickerson, Jr., for appellants:

The patent should not be enlarged by construction beyond the claim which the Patent Office has admitted, and which the patentee has acquiesced in, beyond the fair interpretation of its terms. In this case, unless the patent be construed entirely regardless of the specific matter claimed, which is a rounded flange on the wheel in combination with the rounded corner on the tire, no one of which things the defendants use, there is no case for the plaintiff at all.

This court has lately decided that "as patents are procured *ex parte*, the public is not bound by them, but the patentees are. And the latter cannot show that their invention is broader than the terms of their claim." *Keystone Bridge Co. v. Phoenix Iron Works*, 95 U. S. 279 [11 Am. & Eng. 364;] *Burns v. Meyer*, 100 U. S. 672 [12 Am. & Eng. 342.]

Opinion of the court.

Infringement cannot be presumed, it must be proved, and the burden of proof is on the complainant. In this case there is no such proof. It is very apparent that a square-cornered flange on a tire, in combination with a cylindrical wheel, is not the thing specified and claimed in the patent.

Messrs. Hector P. Fenton and Furman Sheppard, for appellees :

The claim in appellee's patent becomes completely intelligible by reading it in connection with what is antecedently "set forth." It is a claim to the wheel, not only as embodying "the great feature" in the invention, but also as constructed with that form or modification of the corner or flange, which may be adapted to secure the most useful results from continued use. It is accordingly respectfully submitted that the entire specification and claim are free from ambiguity ; and that taken together, they fully, adequately, and in due conformity with law, disclose the nature and subject matter of the invention.

If any proof of infringement is needed beyond or in addition to the admissions in the answer, it was supplied by the testimony of John Swift and Austin Moore.

Indeed, the mode of construction and operation of the wheels and tires made and used by the appellants was not a disputed question in the cause. The models produced by the appellants themselves, of the wheels and tires used by them, were precisely similar to the complainants' model.

Mr. Justice Woods delivered the opinion of the court :

On October 2, 1866, letters patent, No. 58,447, were granted to Edward Mellon for an improvement in the mode of attaching tires to the wheels of locomotives. For the purpose of illustration, three figures, numbered respectively 1, 2, and 3, were appended to the specifications on which the application for the patent was based. The specifications were as follows :

Omitted in U. S.

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“Figures 1 and 2 are central sections of a locomotive wheel having a tire applied to it according to my invention. Figure 3, a section of a portion of a locomotive wheel having its tire affected by wear, drawn with a view of showing the advantage of one feature of my invention. Similar letters of reference indicate like parts.

“This invention has for its object the securing of tires on the wheels of locomotives without the aid of bolts, and in such a manner that the tire, in case of becoming loose, cannot casually slip off from the wheel.

“The invention consists in having the wheel, or the tire which is to be fitted on the same, provided with a single flange, arranged in such a manner that said flange, in connection with the usual flange on the tire, will keep the latter on the wheel. The invention also consists in constructing the tire with a rounded edge at one side of its inner surface in order to prevent said edge from indenting and sinking into the periphery of the wheel, a contingency which would otherwise occur in consequence of the tire becoming stretched by use.

“A represents a locomotive wheel which may be constructed in the usual or any proper manner, and B is the tire fitted thereon. The periphery of the wheel, A, is provided at the inner edge with a flange, *a*, as shown in Figures 1 and 2.

“The tire, B, is shrunk on the periphery of the wheel, A, as usual, and it will be seen that the flange, *a*, prevents the tire, should it become loose on the wheel, A, from slipping off at the inner side of the wheel, and the flange, *b*, of the tire will of course prevent the latter from slipping off at the outer side of the wheel.

“By this arrangement no bolts or set screws are required to aid in fastening the tire on the wheel, for it is impossible for the tire to leave the wheel either at the right or left side thereof.

“The same result may be attained by having the surface

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of the tire at its outer edge provided with a flange, *a*, as shown at the upper part of Figure 2.

“The inner surface of the tire at its inner edge is rounded, as shown at *c*, in all the figures, in order to prevent said edge from indenting or sinking into the periphery of the wheel. The tires of locomotive wheels are, under the jars, concussions, and wear to which they are subjected, considerably stretched, and they invariably become concave at their inner surface (see Figure 3,) the edges spreading over the sides of the wheel, and forming in a lock, in some cases, so as to render the cutting of the tire necessary, in order to detach it from the wheel. With my improvement the flange, *a*, would cause the inner edge of the inner surface of the tire to indent the periphery of the wheel, or form a crease in it if the edge, *c*, were not rounded.

“The great feature in this invention is, that I retain the tire on the wheel without the employment of bolts, rivets, keys, or other like attachments. I heat my tire until it has expanded sufficiently to be slipped over the periphery of the wheel; it then cools and contracts, and holds or binds the wheel firmly.

“After the wheel, as completed, has been in use a certain length of time, the tire will stretch and thus become loose on the wheel; then the pressure of the resistance against the rail will bear or force the tire inward against the flange, *a*, of the wheel.

“Now, it is not intended to run the engine unnecessarily with a loose tire, but should this tire become loose while on the road, there is sufficient safety in running the engine until the depot is reached or until it will be convenient to repair or replace it by a new one.

“The tire can be readily slipped off, there being no rivets or other fastenings to undo, and the convenience and utility of my improvement is apparent.

“I am aware of the invention described in patent to N. Hodge, November 18, 1851, but I wish it to be understood

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that I do not claim the invention therein described, viz., the angular flange upon the inner edge of the wheel and the flange upon the outer edge of the wheel, but I do claim as my invention the wheel with the curved flange upon the inner edge in combination with a tire with a rounded corner to fit said curved flange, as set forth."

The application for the patent, as is shown by the file-wrapper, was made October 6, 1865. It was twice rejected; the last time on April 23, 1866.

The bill in this case charged that the Lehigh Valley Railroad Company, the appellant, had infringed the patent of the appellee and prayed for an injunction and an account of profits.

The answer of the appellant denied that the appellee was the first inventor of the mode of attaching tires to wheels of locomotives, described in his said letters patent.

The answer set up former patents and publications showing, as was claimed, tires and wheels such as the appellants use, and bearing date many years before the alleged invention of the appellee.

Among them were the letters patent to Nehemiah Hodge, dated November 18, 1851, for a new and useful improvement in railroad car wheels. One of the drawings (that designated as Figure 2) annexed to his specifications on which said letters patent were granted, shows a flange or shoulder from the rim of the wheel-center projecting over and over-lapping the tire.

The answer, by way of further defence, denied infringement.

The Circuit Court, upon final hearing, found against the appellant upon both issues made by the answer, and by its decree perpetually enjoined it from further infringement and directed an account to be taken of profits derived by the appellant from the infringement of the patent, and upon the coming in of the master's report rendered a decree in favor of appellee for the sum of three thousand and eighteen dollars.

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Opinion of the court.

This appeal is taken to reverse that decree.

(a) It appears from the evidence that railroad locomotive wheels are composed of two parts, the body of the wheel, called the wheel-center, and a tire which surrounds it, substantially in the same manner in which the tire surrounds the felloes of an ordinary wagon-wheel.

The invention of the complainant (b) Mellon relates solely to a method of fastening tires upon locomotive wheel-centers. It appears from the record that there are two ways, generally speaking, of fastening these tires upon their wheel-centers; one by making the tire a little smaller in diameter than the wheel center, then heating it so that it will expand somewhat more than the difference between its diameter and the diameter of the wheel-center, and in that condition slipping it on the center and allowing it to cool, thus following the method of a blacksmith in shrinking a wagon tire upon a wooden wheel. Another method is to fasten the tire cold upon the wheel-center by means of screws or bolts.

The former method is now almost universally used. In shrinking the tires on the wheels it is the practice usually followed at present to turn the wheel-center and to bore the tire in a cylindrical form and to rely solely upon the contraction of the tire by cooling to retain it upon the wheel.

(c) A modification of this method is, that in place of having the wheel-center and tire to meet (d) each other in a cylindrical joint, to have some kind of a flange, lip, or shoulder to project either from the circumference of the wheel-center or from the bore of the tire to fill a corresponding groove or recess in the opposite part, so that when the tire has been shrunk on the wheel-center it cannot be driven sideways off the wheel against the resistance of this flange. The

104 U. S. 116-117.

(a) Otto inserts "Mr. Justice Woods after making the foregoing statement of facts," and begins opinion here.

(b) Otto omits, "the complainant."

(c) Otto substitutes for from c to d, "a modification of this method is, in place of the wheel-center and tire meeting."

Opinion of the court.

wheels exhibited in the drawings of Mellon's patent belong to this latter class.

The right of the appellee (*e*) to the relief prayed for in the bill, depends in part upon the construction to be placed on his letters patent.

(*f*) Counsel for appellee contend that his patent covers two things which he claims (*g*), are in substance set forth in his specification as follows :

First, in having the wheel, or the tire which is to be fitted on the same, provided with a single flange arranged in such a manner that said flange, in connection with the ordinary flange on the tire, will keep the latter on the wheel.

Second, in constructing the tire with a rounded edge at one side of its inner surface, in order to prevent said edge from indenting and sinking into the periphery of the wheel, a contingency which would otherwise occur in consequence of the tire being stretched by use.

Conceding that the patent is to be construed according to the contention of the appellee, we are of opinion that he has not shown himself entitled to relief.

An inspection of the specifications and drawings which accompany the letters patent granted to Nehemiah Hodge under date of November 18, 1851, shows precisely the contrivance firstly described in the specifications of appellee's patent. The drawing representing a central cross-section of a car-wheel, appended to Hodge's specifications, accurately illustrates the first alleged invention described in the specifications of appellee's patent. His patent cannot, therefore, be held to include that contrivance. So far as that part of his alleged invention is concerned, the defence of want of novelty is conclusively established.

But there is another answer to this part of the appellee's case.

104 U. S. 117.

(*e*) Otto substitutes for "the appellee" "Mellon."

(*f*) Otto substitutes for from *f* to *g*, "His counsel contends that they cover two things which it is claimed."

Opinion of the court.

The Act of July 4, 1836, sec. 6, 5 Stat. at Large, 117, under which this patent was issued, requires that an applicant for a patent shall not only "deliver a written description of his invention or discovery," but "shall also particularly specify and point out the part, improvement, or combination which he claims as his own invention or discovery." This provision is substantially re-enacted in the Act of July 8, 1870, R. S., sec. 4888, and remains in force.

As a rule, therefore, the specifications filed with applications for letters patent contain a general description of the invention sought to be patented, which is followed by what is technically called the "claim." In reference to this latter part of the specifications, this court, speaking by Mr. Justice BRADLEY, has said: "It is well known that the terms of the claim (*h*) are carefully scrutinized in the Patent Office. Over this part of the specification the chief contest generally arises. It defines what the office, after a full examination of previous inventions and the state of the art, determines the applicant is entitled to." *Burns v. Meyer*, 100 U. S. 671 [12 Am. & Eng. 342.] See, also, *Keystone Bridge Co. v. Phoenix Iron Co.*, 95 U. S. 278 [11 Am. & Eng. 364.]

In view, therefore, of the statute, the practice of the Patent Office, and the decisions of this court, we think that the scope of letters patent should be limited to the invention covered by the claim, and that though the claim may be illustrated, it cannot be enlarged by the language used in other parts of the specifications.

We are, therefore, justified in looking at the "claim" with which the specifications of the appellee's invention conclude, to determine what is covered by his letters patent.

The claim, so far from covering an angular flange upon the wheel, expressly excludes such a flange, and claims (*i*) only a flange with a curved or rounded corner.

In this case the description of the appellee's invention is

104 U. S. 117-118.

(*h*) Otto adds "in letters patent."

(*i*) Otto substitutes for "claims" "embraces."

Opinion of the court.

much broader than his claim. It seems quite clear, from the present form of appellee's specifications, (j) and from the fact that his application for a patent was twice rejected, that he was compelled by the Patent Office to narrow his claim to its present limits before the Commissioner would grant him a patent. In doing this he neglected to amend the descriptive part of his specifications. He cannot go beyond what he has claimed and insist that his patent covers something not claimed, merely because it is to be found in the descriptive part of the specifications.

The appellee is, therefore, precluded from claiming relief against the appellant for the use of a flange with a square corner. He is, consequently, driven to the second branch of his alleged invention, as set out in his bill of complaint, as the basis of any relief against appellant.

This, as is clear from his claim, consists simply in rounding off that corner of the inner side of the tire which fits into the re-entrant corner made by the flange upon the rim of the wheel-center, so as to prevent the corner of the tire from indenting and sinking into the periphery of the wheel-center.

The charge in the bill of infringement of this part of appellee's alleged invention, is not sustained by the proof. The answer, which is under oath, denies infringement. Infringement must, therefore, be shown by satisfactory proof; it cannot be presumed. The evidence for the appellee entirely fails to establish this part of his case. On the contrary, the proof adduced by the appellant is not only persuasive but conclusive to show that it never made or used the flange with the rounded corner.

We are of opinion, therefore, that the record discloses no case against the appellant.

The decree of the Circuit Court must, therefore, be reversed and the cause remanded with instructions to dismiss the bill; and it is so ordered.

104 U. S. 118-119.

(j) Otto substitutes for "appellee's specifications" "his specification"

Notes and citations.

Notes :

1. Claims should be construed in view of the specification :
Turrill *v.* Railroad, 1 Wall. 491 [7 Am. & Eng. 202.]
Mitchell *v.* Tilghman, 19 Wall. 287 [9 Am. & Eng. 174.]
Fuller *v.* Yentzer, 94 U. S. 288 [11 Am. & Eng. 138.]
Tilghman *v.* Proctor, 102 U. S. 707 [p. 29 *ante.*]
Fay & Co. *v.* Cordesman, 109 U. S. 408.
Yale Lock Co. *v.* Sargent, 117 U. S. 373.
White *v.* Dunbar, 119 U. S. 47.
Snow *v.* Railway Co., 121 U. S. 617 ; and see
Shepard *v.* Carrigan, 116 U. S. 593.
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Patent in Suit :

No. 58,447. Mellon, E. October 2, 1866. Locomotive
Wheels.

OTHER SUITS ON SAME PATENT:

Mellon *v.* Delaware, Lackawanna and Western R. R. Co., 1881.
Bk. 26 L. ed. 929 [p. 195 *ante.*]

Cited :

IN SUPREME COURT IN :

Western Elec. Mnfg. Co. *v.* Ansonia Brass and Copper Co., 1885.
114 U. S. 447 ; Bk. 29 L. ed. 210.
Yale Lock Mnfg. Co. *v.* Greenleaf, 1886. 117 U. S. 554 ; Bk. 29
L. ed 952.

Notes and citations.

IN CIRCUIT COURTS IN:

Coburn *v.* Schroeder, January, 1882. 20 Blatch. 392 ; 11 Fed. Rep. 425 ; 22 O. G. 1538.

Schillinger *v.* Crawford, July, 1885. 4 Mackey's Rep. 450.

La Rue *v.* Western Electric Co., July, 1886. 28 Fed. Rep. 85 ; 36 O. G. 453.

Hill *v.* Sawyer, June, 1887. 31 Fed. Rep. 282.

DECISIONS OF COMMISSIONER OF PATENTS IN:

Ex parte Demming, March, 1884. 26 O. G. 1207.

IN STATE COURTS IN :

Schillinger *v.* Crawford, March, 1886. 2 Central R. 680.

Syllabus.

THE SANDUSKY SEAT COMPANY, JOHN R. MINER
AND ALONZO F. HUBBELL, APPELLANTS, v.
THEODORE COMSTOCK, EZRA BOOTH, AND
HENRY F. BOOTH.*

Not reported elsewhere † Oct Term, 1881.

Affirming Comstock v. Sandusky Seat Co., 13 O. G. 230.

Decided November 7, 1881.

1. Reissue letters patent, No. 4,780, granted March 5, 1872, to Comstock, Booth, and Booth, assignees, for carriage bodies and seats, examined and sustained. (Affirmed p. 236.)
2. The date of invention of the device covered by the patent on which infringement suit was brought, fixed at the time when the inventor perfected the invention, made models of the device, and entered into a contract for its manufacture. (Affirmed p. 236.)
3. The mere making of the invented article more than two years before applying for letters patent, is quite immaterial, and where there is a doubt upon the evidence as to public use or sale of the article under like circumstances, the doubt should be resolved against the respondents, upon whom rests the burden of proof. *Coffin v. Ogden*, 18 Wall. 120 [9 Am. & Eng. 125.] (Affirmed p. 236.)
4. The patent is *prima facie* valid. It is a muniment of title. He who would overcome it must do so by a clear preponderance of evidence. (Affirmed p. 236.)
5. *Doubted* whether the invention involved in reissued letters patent, No. 4,780, Comstock, Booth, and Booth, March 5, 1872, (original No. 95,466, S. P. Graham, October 5, 1869,) for Carriage Bodies and Seats, is not in substance only the substitution of one material for another, iron for wood, and whether, hence, there is not a want of patentability. (Affirmed p. 236.)
6. *Quare* whether facts showing substitution of material not amounting to invention, are not such that the court can take

*See Explanation of Notes, page III.

† This case has been omitted from all reports of U. S. Supreme Court cases, and is here published for the first time.

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judicial notice of them. *Brown v. Piper*, 91 U. S. 37 [10 Am. & Eng. 272.] The defence overruled, not having been set up regularly in the answer, with leave to raise the question in the Supreme Court. (Affirmed p. 236.)

This is an appeal from the Circuit Court of the United States for the Northern District of Ohio.

The opinion in the court below from which this appeal was taken is as follows :

Welker, J., delivering the opinion with the concurrence of Justice SWAYNE :

This suit is brought upon Reissue Letters Patent, No. 4,780, granted to the complainants, Theodore Comstock, Ezra Booth, and Henry F. Booth, as assignees, by mesne assignment, of Simon P. Graham, March 5, 1872, for improvement in carriage bodies and seats.

The defences are, severally, (1) non-infringement, and (2) invalidity of the patent. The invalidity alleged being (1) anticipation, (2) prior use, (3) abandonment, (4) public use for more than two years prior to application for complainants' patent, (5) also that reissue was for a different invention from the original, and (6) the existence of a prior Canadian patent, etc.

We have carefully considered the evidence and arguments of counsel, and now state our conclusions.

I. It is not controverted that Graham's invention was perfected, and that he made two seats as described in his patent, prior to April, 1867.

II. He applied for his patent August 9, 1869. The patent was issued October 5, 1869, and was reissued March 5, 1872, upon which reissue this suit is founded.

III. At the close of the argument we were satisfied that the patent of the complainants was valid unless successfully assailed, (1) for want of novelty with respect to the invention, or (2) by reason of the sale and use of the thing patented more than two years prior to the application for the

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patent, that is, more than two years before August 9, 1869—in other words, before August 9, 1867. The points we have carefully considered in our further examination of the case.

IV. As to the priority of invention, our attention was particularly called to the claim in behalf of Burt. Upon examination of the testimony bearing upon the subject, it seems to us clear that it is not shown that anything that was done later than April, 1867.

It is clear upon the proofs that Graham perfected his invention, made models, and took them with him to Wauseon, and there entered into a contract with Stebbins for the manufacture of the seats in November, 1866.

His invention, according to the record, may be fairly held to date back to that time. But this is immaterial, as nothing is shown as to any other party which antedates the time fixed by the admission of respondents' counsel, which is before April, 1867. The other cases of alleged prior invention are unsustained. It is unnecessary to remark further in regard to them.

V. As to the use and sale of the thing patented. (1.) The Stebbins contract. This contract was entered into by Graham and Stebbins in November, 1866. No seats were completed by them. Two were partly made when the contract was put an end to, and Stebbins retired. Graham alone completed these seats. The mere making them without anything more was immaterial; but (2) Graham sold one of them, after they were completed, to Ben Smith, with a buggy, of which it was a part. The date of this sale is important in the case. The testimony upon this point is very conflicting; upon the whole, it does not satisfy us that the sale was made before August 9, 1867. We are brought to the conclusion that it was not. If the evidence, however, raised a doubt, it is well settled, should be resolved against the respondents, upon whom rests the burden of proof. *Coffin v. Ogden*, 18 Wall. 120 [9 Am. & Eng. 125.] This rule is founded in justice and good sense.

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The patent is *prima facie* valid. It is muniment of title. He who would overcome it must do so by a clear preponderance of evidence.

VI. We are in some doubt as to the point whether the invention is not in substance only the substitution of one material for another, iron for wood, and whether, hence, there is not a want of patentability. *Hotchkiss v. Greenwood*, 11 Howard, 248 [5 Am. & Eng. 240.]

This defence is not set up in the answer, as it should have been; but, possibly, the bill shows no equity on its face, and perhaps the facts are such that the court can take judicial notice of them. *Brown v. Piper*, 1 Otto, 37 [10 Am. & Eng. 272.] But in view of the decision in *Smith v. Goodyear*, 3 Otto, 486 [11 Am. & Eng. 1,] we are inclined to think we ought to overrule this objection and leave the respondents to raise the question, if they think proper to do so, in the Supreme Court, by appeal.

VII. The infringement complained of is made out by the evidence.

Upon the whole case, then, we think there should be a decree for the complainant, which we direct to be entered, and the usual reference to commissioner to report account and damages.

Decree.—January 11, 1878.

This case having been brought on to be finally heard, on the pleadings and proofs at the April term of this court, 1877, before their honors, Justice SWAYNE and Judge WELKER, holding the said term of court, and the counsel for the respective parties having been fully heard thereon, and the case having been submitted on the oral arguments and full briefs by the counsel for the respective parties and due deliberation having been thereon duly had, it is ordered, adjudged, and decreed, and this court, by virtue of the power therein vested, doth order, adjudge, and decree:

First. That the reissued letters patent, No. 4,780, issued

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to Theodore Comstock, Ezra Booth, and Henry F. Booth, of Columbus, Ohio, as assignees, by mesne assignment, of Simon P. Graham, of London, Canada, and dated March 5, 1872, being a reissue of the letters patent, No. 95,466, granted to Simon P. Graham, October 5, 1869, for improvement in carriage bodies and seats, are good and valid in law.

Second. That the complainants are the sole and exclusive owners of all the rights granted or conferred by said reissued letters patent.

Third. That the defendants have infringed and violated said reissued letters patent by manufacturing at Sandusky, Ohio, and selling in various parts in the United States, carriage-seats embodying the improvements described in said patent, and recited respectively in the third, fourth, fifth, sixth, seventh, eighth, ninth and tenth claims thereof.

Fourth. That the said defendants do account to the said complainants for the damages sustained by the complainants, and for the profits made by the said defendants in consequence of such infringement.

Fifth. That an account of the said damages and said profits be taken and stated by Earl Bill, Esq., who is hereby appointed special master commissioner for that purpose; and that the defendants, their attorneys, agents, servants, and employés appear before the said master from time to time on notification from him and under his direction; and that the complainants may examine the said defendants, their officers, employés, agents, attorneys, and servants, under oath, as to the several matters pending on the said reference; and that the said defendants produce before the said master, on oath, all such deeds, contracts, specifications, papers, writings, and books as the said master shall direct, that are in their custody or under their control, or subject to their order, and that relate to said matters that shall be pending before the said master; and that the said master have all the authority and power conferred upon masters in like cases by the 77th rule prescribed by the Supreme Court of the United

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States as rules of practice of the courts of equity of the United States.

Sixth. That a perpetual injunction issue out of and under the seal of this court against the said defendants and each of them, commanding them, their attorneys, agents, workmen, officers, servants, and employés to desist from making, using, or vending any carriage-seats containing or embodying any inventions described in said reissued letters patent, and recited in the third, fourth, fifth, sixth, seventh, eighth, ninth, and tenth claims thereof, and from in any manner infringing upon or violating any rights or privileges granted or secured to the complainants by said reissued letters patent.

Seventh. That the said complainants recover of the said defendants as well the damages as the profits which shall be reported by the said master herein, and that, upon the confirmation of this report, a decree shall be entered against the defendants therefor, and also for the costs of the complainants in this suit in this court, and that the complainants have execution therefor and for the compensation of the said master, to be fixed on the coming in and confirmation of his report.

Eighth. That the parties and master may apply on due notice to the court upon the foot of this decree for such other and further order, instructions, and directions as may be necessary.

The specification and drawings of reissued letters patent, No. 4,780, are as follows :

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SIMON P. GRAHAM, OF LONDON, CANADA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THEODORE COMSTOCK, EZRA BOOTH, AND HENRY F. BOOTH, OF COLUMBUS, OHIO.

IMPROVEMENT IN CARRIAGE BODIES AND SEATS.

Specification forming part of Letters Patent, No. 95,466, dated October 5, 1869; Reissue, No. 4,780, dated March 5, 1872.

Simon P. Graham, formerly of the city of Columbus, county of Franklin, State of Ohio, and now of London, in the province of Ontario and Dominion of Canada, has invented certain new and useful Improvements in Carriage Body and Seats, of which the following is a specification:

His invention relates to a carriage-seat which is constructed of wood and sheet metal, by the combination of which materials a strong, light, and durable structure is obtained; and it consists in the special construction of the seat and the parts which compose the seat.

In the accompanying drawing, Figure 1 is a side view of a carriage-body and seat; Fig. 2, a view of the top; and Figs. 3 and 4 are detached sections.

In Fig. 2, A represents the sills of the body, which are constructed of wood in the ordinary way. B, indicated by the dotted lines, is a cross-beam, supported by the standard, C, also indicated by dotted lines in Fig. 1. Said beam and standard, together with the front standards, D, support the seat, and, together with the sills referred to, make up the frame-work of the carriage. To said frame-work is attached the sides or panels, S, of the body, said panels being constructed of thin sheet-iron—the sides and back being one entire piece, and bolted or otherwise secured to the frame in a strong and substantial manner. The sides and back may

SIMON P. GRAHAM.

Improvement in Carriage Bodies and Seats.

No. 4,780.

Reissued March 5, 1872.

Fig.1.

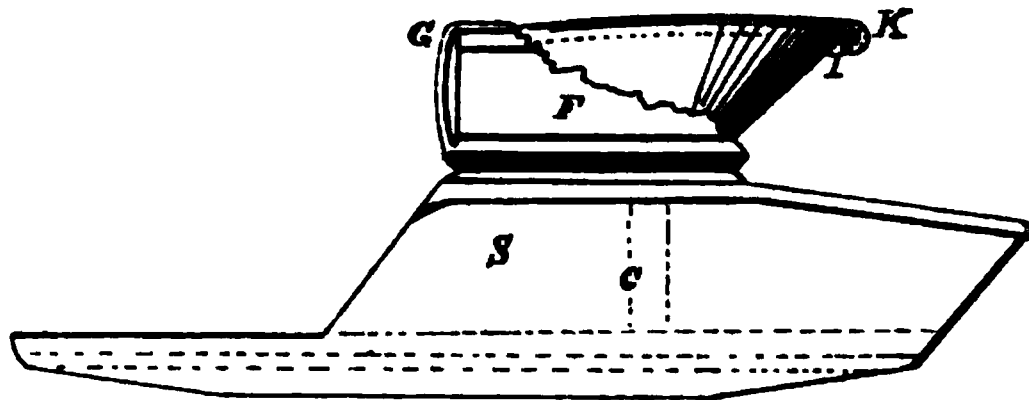


Fig.2.

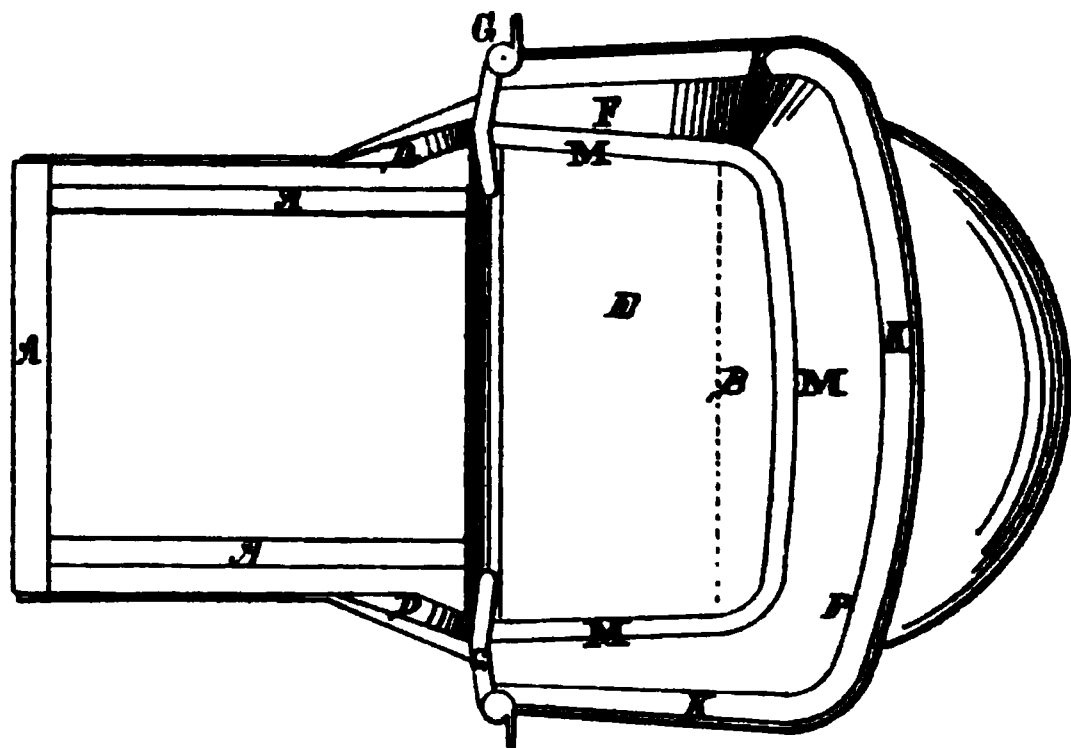


Fig.3.

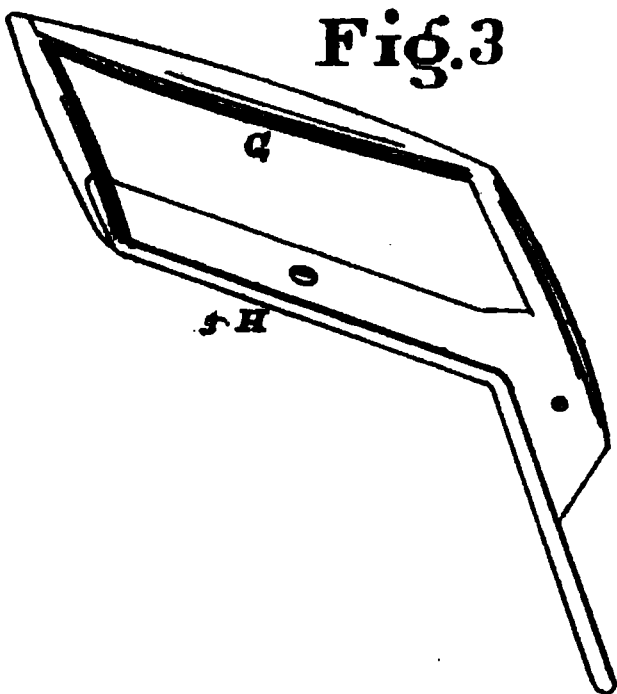
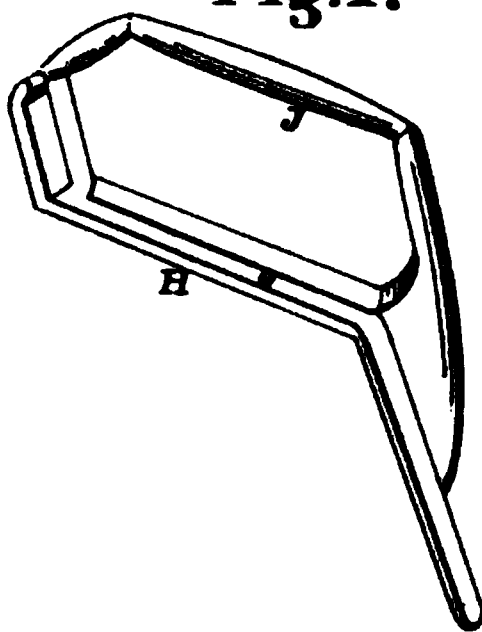


Fig.4.



Attest.
Philip M. Shung
J. L. Loring.

Simon P. Graham
Inventor.
Assignees { Theodore Comstock,
Henry F. Smith,
David Smith, Harry
B. Fisher & Fisher, attys in
fact

Statement of the case.

consist of several pieces, in which case they are joined by any ordinary lock-joint, or by riveting the sections together. The upper or top panel in the rear of the seat is connected to the sides by an ordinary folding or lock-joint.

A body thus constructed is not only much lighter than one made entirely of wood, but it is also much stronger and more durable, as it cannot warp and crack by exposure and usage.

The seat is constructed in like manner of wood and sheet metal, the bottom, E, being wood, and the back and sides, F, sheet metal. The back and sides, F, consist of one entire piece of sheet metal, or it may be made up in sections, if so desired, as described of the body. The bottom edge of the sides and back of the seat is turned inward horizontally, so as to form a flange, M, which latter rests upon the top of the bottom of the seat, and is attached thereto by bolts or otherwise. The flange serves not only to attach the sides and back to the bottom, but stiffens and strengthens said sides and back. The sides of the seat are attached to the front part of the seat-bottom by the corner-irons, G or J, a detached view of which is shown in Figs. 3 and 4. H, the upright section which forms the corner of the seat, is made concave on the inner side, and convex on the outer, thereby forming a smooth rounded edge to the corners of the seat, and to which they are riveted in a neat and permanent manner. Said corner-irons not only serve to attach the back to the bottom of the seat by reaching out onto the bottom and up the side as an angle-iron, but at the same time answer the place of handles, to assist the riders into the carriage. J, Fig. 4, represents a handle or corner-iron, in which is formed a groove or channel, e, for the admission of the ends of the seat-back, thereby dispensing with the use of rivets, as is required on using that shown in Fig. 3.

It will be observed that the upper edge of the seat-back is turned over, forming a flange-like projection or rim, K. This flange or rim serves to stiffen and strengthen the seat-back. To the under side of this flange or rim may be attached a fillet, I, Fig. 1, when the flange is bent around and underneath

Statement of the case.

said fillet, holding the latter firmly in its place. A portion of the side of the seat is represented as being broken away in order that it may be seen. Said fillet is for the purpose of giving greater strength and stiffness to the rim.

This seat may be used on either wood or iron bodies, without regard to the peculiar construction of said bodies.

In the construction of the above-described body and seat he does not confine himself to any particular style or shape of the panels, which are susceptible of many variations and modifications.

What is claimed as the invention of said Graham, and desired to be secured by Letters Patent, is—

1. A carriage-body of which the sides and back are made of one entire piece of sheet metal, for the purposes specified.

2. A carriage-body made of sheet metal, formed in parts or sections, substantially as and for the purposes specified.

3. A carriage-seat the back and sides of which are made of one or more pieces of sheet metal, substantially as and for the purposes specified.

4. The carriage-seat herein described as an article of manufacture, composed of the metal back and sides, F, flange, M, bottom, E, handle and angle-irons, G or J, flange, K, and fillet, I, all constructed in the manner substantially as described.

5. The flange or curved rim on the upper edge of the seat-back, for the purpose of giving strength and stiffness to the back, substantially as described.

6. In combination with the seat-back, F, the flange or curved rim, K, formed substantially as and for the purposes specified.

7. The fillet, I, in combination with the rim, K, of the seat-back, substantially as and for the purpose specified.

8. The combined handle and double corner-iron, G, substantially as and for the purposes specified.

9. The combined handle and corner-iron, J, constructed with the groove, e, substantially as and for the purposes specified.

Argument of counsel.

10. The flange, M, upon the bottom of the seat-back, substantially as and for the purposes specified.

THEODORE COMSTOCK.
EZRA BOOTH.
HENRY F. BOOTH.

Witnesses :

HENRY HEINMILLER,
L. E. WILSEN.

Messrs. W. W. Leggett and M. D. Leggett, for appellants :

We think the testimony establishes beyond all question the fact that Burt's invention of wooden seats, with the back and sides in a single piece, was long prior to Graham's alleged invention ; that large quantities were made in 1866 ; that in May, 1867, he made the seats of iron, had them painted up that summer, and publicly used them during the month of August, 1867.

The alleged invention is but the substitution of one well-known material for another—iron for wood—and hence not patentable. All that Mr. Graham has done is to substitute for the board employed in the prior seats a piece of sheet-iron, cut to precisely the same pattern and bent about a form of precisely the same shape,—this required no exercise of the inventive faculty,—but simply the exercise of the ordinary judgment of the mechanic in the selection of materials of which to make the seat.

No new effect whatever is produced by employing the iron instead of the wood, except, perhaps, lightness and cheapness of construction, effects which are clearly due, not to the exercise of the inventive faculty on the part of Graham, but are inherent in the material which he has substituted for the other material.

Iron and wood being at that period well-known substitutes in the arts, they become in this construction mechanical equivalents, and there is no invention in merely substi-

Argument of counsel.

tuting the one for the other. *Hicks v. Kelsey*, 18 Wall. 670 [9 Am. & Eng. 150 ;] *Hotchkiss v. Greenwood*, 11 How. 248 [5 Am. & Eng. 240 ;] *Foster v. Moore*, 1 Curt. 279 ; *Ingersoll v. Turner*, 12 O. G. 189 ; *Brown v. Piper*, 91 U. S. 37 [10 Am. & Eng. 272.]

Messrs. W. Bakewell and Arthur Stem, for appellees :

The law under which the original patent was granted, act of 1839, § 7, makes the use of an invention "for more than two years prior to such application for a patent" a bar to its grant. It nowhere says, "prior to *the filing* of the application." The law is not explicit on this point, and to quote the words of Mr. Justice SWAYNE, in *Birdsell v. McDonald*, 6 O. G. 682: "The objection rests upon the principle of forfeiture and is not to be favorably regarded. Every reasonable doubt should be resolved against it." It is alleged that Graham sold one of his carriage seats (of which he had made only two,) to Ben Smith, more than two years before the date of his application for a patent. The testimony on this point is very conflicting ; but all doubts should be resolved in favor of the patent. In the case of *Birdsell v. McDonald*, before referred to, Mr. Justice SWAYNE says: "Public use in good faith for experimental purposes and for a reasonable period, even before the beginning of the two years of limitation, cannot affect the rights of the inventor." See also *Kendall v. Winsor*, 21 How. 322 [7 Am. & Eng. 1 ;] *Henry v. Francetown Soapstone Co.*, 9 O. G. 408 ; *United States Rifle Co. v. Whitney Arms Co.*, 11 O. G. 373.

All presumptions are against abandonment. *McCormick v. Seymour*, 2 Blatch. 229 ; *Jones v. Sewall*, 6 Fish. 367.

The sixth and seventh assignments of error allege the invalidity of the reissue in suit for two reasons: That it is for a different invention from the original, because of the alleged introduction of new matter.

We are saved the trouble of a careful comparison of the original and reissue by the admission of appellants' brief

Argument of counsel.

in the following words: "The specification is essentially the same from the beginning down to the claims." We infer, therefore, that the reissue is supposed to be for a different invention because it contains more claims than the original patent.

This position can hardly be sustained, however, unless we are to take the ground that the claims of the reissue must be the same as those in the original, both in number and in meaning.

There are some things in regard to the reissuing of patents which ought to be considered as too well settled to need discussion; and among these is the principle that the provision for reissue is a remedial one, and is designed for the benefit of inventors, to secure to them the protection which the law affords for the inventions which they have made, in those cases where, through imperfection, either in the description or in the specification of claim, the original patent fails to secure to them the full measure of protection to which they are entitled.

"In whatever manner the mistake or inadvertence may have occurred is immaterial. The action of the Government, renewing the patent must be considered as closing this point and as leaving open for enquiry before the court and jury the question of *fraud* only."

Stimpson v. Westchester R. R. Co., 4 How. 380 [4 Am. & Eng. 398;] *Railroad v. Stimpson*, 14 Pet. 458 [4 Am. & Eng. 324;] *Seymour v. Osborne*, 11 Wall. 543 [8 Am. & Eng. 290;] *O'Reilly v. Morse*, 15 How. 62 [5 Am. & Eng. 483;] *Ball v. Langles*, 102 U. S. 128 [12 Am. & Eng. 508;] *Battin v. Taggart*, 17 How. 74 [6 Am. & Eng. 243;] *Gill v. Wells*, 22 Wall. 1 [9 Am. & Eng. 471;] *Powder Co. v. Powder Works*, 98 U. S. 126 [12 Am. & Eng. 201;] *The Corn-Planter Patent*, 23 Wall. 181 [10 Am. & Eng. 1.]

The eighth assignment of error that "The court erred in not finding the alleged invention to be but the substitution of one well-known material for another, and consequently not patentable," like the sixth and seventh, relates to de-

Notes and citations.

fences nowhere set up in the answer, and, therefore, we submit, is not entitled to consideration in this case.

It has frequently been decided that a neglect to set up a material defence in the answer, puts the matter entirely beyond the reach of the court.

Providence Rubber Co. v. Goodyear, 9 Wall. 788 [8 Am. & Eng. 150;] Agawam Co. v. Jordan, 7 Wall. 583 [8 Am. & Eng. 24;] Bates v. Coe, 98 U. S. 31 [12 Am. & Eng. 150.]

The only claim which could by any possibility be supposed to claim broadly making a carriage seat of sheet-iron, is the third, "A carriage seat, the back and sides of which are made of one or more pieces of sheet-metal, *substantially as and for the purposes specified.*" We need not cite authorities to prove that the last clause refers us to the specification, and limits the claim to the peculiar construction of the metal seat-back as described therein. Seymour (appellant's expert) put substantially the same construction on this claim.

In view of this construction of this claim by appellant's expert, the court will not give a broader construction for the purpose of invalidating it.

Coffin v. Ogden, 3 Fish. 640; Brown v. Selby, 23 Wall. 181 [10 Am. & Eng. 1.]

We further insist that this patent is valid, although involving a change of material, because it required invention to adapt the new material to its new use.

We contend that the claims of this patent embrace valid subject matter under the law as laid down by the courts. Smith v. Goodyear D. V. Co., 93 U. S. 486 [11 Am. & Eng. 1.]

No opinion was rendered in this case, *but the decree was affirmed by a divided court.*

Omitted in U. S.

Patent in suit:

No. 95,466. Graham, S. P. October 5, 1869. Reissue No. 4,780, March 5, 1872. Carriage Bodies and Seats.

Notes and citations.

OTHER SUITS ON SAME PATENT:

Comstock v. Sandusky Seat Co., 1878. 13 O. G. 230 ; 3 Ban. & Ard. 188.

Syllabus.

ARTHUR PICKERING, CHARLES H. VICKERY,
HENRY D. ATWOOD, Executor of CHAS. H. ATWOOD,
Deceased, and the PHOENIX MANUFACTURING COM-
PANY, APPELLANTS, v. MICHAEL McCULLOUGH,
Jr., ET AL., Partners, as McCULLOUGH, DALZELL & Co.*

104 (14 Otto) U. S. 310-319. Oct. Term, 1881.

[Bk. 26, L. ed. 749; 21 O. G. 73.]

Affirming *Ibid*, 3 Ban. & Ard. 279.

Argued November 30, and December 1, 1881. Decided December
12, 1881.

Particular patent construed. Aggregation. Want of novelty.
Combination. Invention.

1. The alleged invention covered by reissued letters patent, No. 6166, G. Nimmo, December 8, 1874, (original No. 49,140, August 1, 1865,) for an Improvement in molding Crucibles, which consists in combining an old mode of presenting the "ball" to and supporting it under the action of the forming-tool, and an old mode of shaping the inside of the crucible, *held*, to be a mere aggregation of old agencies and devoid of patentable novelty. *Held*, that the alleged invention was also anticipated by prior patents to J. & F. Wise, No. 9,437, November 30, 1852, Manufacture of Stone and Earthenware, and to W. Smith, No. 40,506, November 3, 1863, Apparatus for making Plumbago Crucibles, embodying the principle of a former used in combination with a mold connected so that the former can be withdrawn, in cases of vessels having a bilge, without injury, although the machines described in said patents are mere paper-machines, it appearing that the machines could be made practically successful by mere mechanical skill without the exercise of the faculty of invention. (p. 258.)
2. In a patentable combination of old elements all the constituents must so enter into it as that each qualifies every other, and together form either a new machine of a distinct character and function or produce a result due to the joint and co-operating

*See Explanation of Notes, page III.

Statement of the case.

action of all the elements, and which is not the mere adding together of separate contributions. Otherwise it is only a mechanical juxtaposition and not a vital union. (p. 267.)

[Citations in the opinion of the court:]

Hailes v. Van Wormer, 20 Wall. 353 [9 Am. & Eng. 340.] p. 266.

Reckendorfer v. Faber, 92 U. S. 347 [10 Am. & Eng. 373.] p. 267.

Appeal from the Circuit Court of the United States for the Western District of Pennsylvania.

The case is stated by the court.

The drawing of the Nimmo reissue and the drawings and specifications of the two letters patent referred to in the opinion are as follows :

GEORGE NIMMO, OF JERSEY CITY, NEW JERSEY,
ASSIGNOR, BY MESNE ASSIGNMENTS, TO ARTHUR
PICKERING, CHARLES R. VICKERY, CHARLES R.
ATWOOD, AND PHOENIX MANUFACTURING COM-
PANY.

IMPROVEMENT IN MOLDING CRUCIBLES.

Specification forming part of Letters Patent, No. 49,140, dated August 1, 1865; Reissue No. 6,166, dated December 8, 1874; application filed November 29, 1872.

To all whom it may concern :

Be it known that George Nimmo (then of Jersey City, in the county of Hudson and State of New Jersey,) invented certain Improvements in Molding Crucibles, Letters Patent for which were granted August 1st, 1865, numbered 49,140, and assigned to Arthur Pickering, of Boston, in the county of Suffolk, Charles R. Vickery and Charles R. Atwood, both of Taunton, in the county of Bristol, and the Phoenix Manufacturing Company, (a corporation duly established under

Statement of the case.

the laws of the State of Massachusetts, and having its principal place of business at Taunton, aforesaid,) all in the said State of Massachusetts.

Long prior to said Nimmo's invention the mode of manufacturing certain articles of pottery by means of a rib or former to give the desired shape to the inside of the article, and a revolving plaster vessel to properly present the "ball" (as the lump of tempered clay is called) to and support it under the action of the rib, was well known; but this mode of manufacture was not applicable in the manufacture of crucibles, because the apparatus was such that the crucible would be injured or destroyed in removing the rib, by the end of the rib striking the upper part of the crucible, as will be plain to all skilled in the art of crucible-making, and acquainted with the mode of manufacture above referred to.

Another mode of manufacturing certain articles of pottery-ware by means of a rib or former for the inside of the article, and a revolving table (a common potter's wheel) which partially presented the ball to and supported it under the action of the rib, the workman using his hands to aid in presenting the ball to and supporting it under the action of the rib, is described in a French work published in 1857, entitled "Lecons de Ceramique," par M. A. Salvetat, volume second, pages 121-2. This last-named mode of manufacture was applicable to the manufacture of crucibles, the apparatus being such that the rib was guided so as to cause it to approach the axis of the pot, where it was necessary that it should do so in order to prevent injury to the pot; but, even if useful at all in that manufacture, it is without doubt very much inferior to the mode of manufacture invented by Nimmo, and hereinafter described, the distinguishing difference between them being that the ball is presented to the rib and supported under its action, not by a flat revolving metal disk, but by a vessel made of plaster, which takes the place of both the flat revolving disk and the workman's hands, performing all the functions performed by this disk.

G. NIMMO.
Molding-Crucibles.

No. 6,166.

Released Dec. 8, 1874.

Fig. 1.

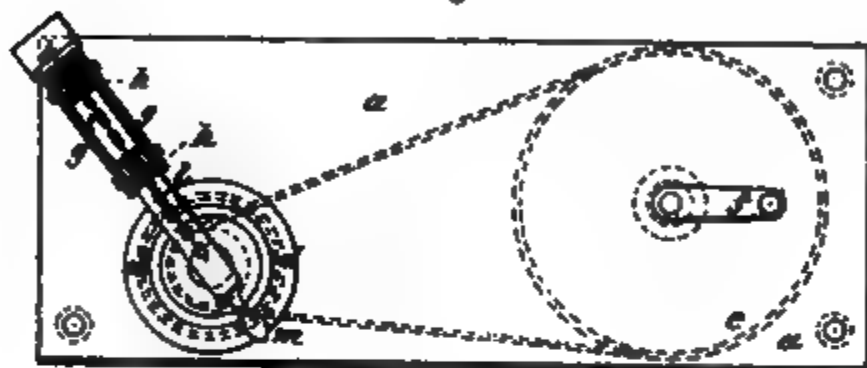


Fig. 2.

Witnesses

John Senell Junr.
Charles Smith

Inventor

George Nimmo

Statement of the case.

and the hands of the workman, but in a much more perfect manner and in less time.

The invention of said Nimmo is, in fact, an improvement on the mode of manufacture, as well as on the apparatus, described in Salvetat's work, the improvement consisting in the different mode of presenting and supporting the ball; but we do not wish to be understood as claiming this mode of presenting and supporting the ball as the invention of said Nimmo, as his improved mode of manufacture is new solely because it is, as a whole, substantially different from the mode described by Salvetat, and from the mode first above referred to; indeed, as a short general description of Nimmo's improved mode, it may be said to be substantially the same as that described by Salvetat so far as shaping the inside of the crucible is concerned, and substantially the same as the mode first above referred to, so far as presenting the ball to and supporting it under the action of the rib is concerned. By Nimmo's improved mode of manufacture much labor and expense are saved, and, what is still more important, crucibles are produced which are superior to those made by any practical mode known prior to said Nimmo's invention, in many very important respects.

Figure 1 is a plan, and Fig. 2 is a sectional elevation, of the best form of apparatus known to said Nimmo for practicing his improved mode of manufacture.

In these drawings, *a* is a bed carrying the vertical spindle, *b*, on the upper end of which is the hollow chuck, *c*, into which the plaster mold, *d*, fits, and these parts are revolved by a belt to a wheel, *e*, and crank. (See Fig. 1.) Near the chuck, *c*, is an upright frame, *g*, with rollers, *h h*, over which the chain, *i*, passes, on one end of which is the counter-weight, *k*, and on the other the lever, *l*, having a handle, *m*, at one end, and carrying rib, *n*. This lever, *l*, is guided by the uprights, *g g*, and cross-piece, *q*, and, when not in use, is drawn up by the weight, *k*. The rib, *n*, can always be brought into precisely the same relation to the axis of revolution of mold, *d*; consequently crucibles can

Statement of the case.

be thus manufactured with very great uniformity. The material is also compressed between the rib and the supporting-vessel, and the inside of the crucible is smoothed by the smooth surface of metal which constitutes the working-face of the rib. The stop, *p*, arrests the motion of the lever, when fulcrumed at *o*, as soon as the working-face of the rib is brought into the desired relation with the axis of revolution of the mold—that is, as soon as the crucible is shaped. In all these respects this apparatus does not differ from that ~~first~~ above mentioned. The rib must then be withdrawn, and, to prevent its marring the interior of the crucible, it must be so guided that it will travel in a path materially different from that of the rib in the apparatus first above described, and substantially the same as that of the rib in Salvetat's apparatus. For this purpose the lever, *l*, is hung, by the chain, *i*, between two uprights, *g g*, so that when it is drawn outward until its end clears the cross-piece, *q*, it may be readily lifted bodily, and guided, by the cross-piece, *q*, and the uprights, *g g*, in such a way that the rib will not strike against the interior of the crucible. The mold, *d*, with the crucible in it, is then taken from the chuck and a second mold substituted. The crucible will soon shrink, so that it can be removed from the plaster vessel, when it is to be finished in the usual manner.

We disclaim, as the invention of said Nimmo, both the modes and both the apparatus above mentioned, and we also distinctly disclaim any and all modes of manufacture which can be carried on by any apparatus which lacks either the mechanism for guiding the rib in the manner above described, or the vessel for presenting and supporting the ball, as above described, said Nimmo's invention residing wholly in the combined use of both these features.

What we do claim as the invention of said Nimmo is—

The improved apparatus above described, having the specific character, objects, and functions above explained, and consisting of the rib, the revolving mold, and the mechanism by which the rib is guided toward the axis of revolu-

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tion of the mold as it is withdrawn, as set forth, these elements being claimed only in combination each with all the others, and no claim is made to any combination of any of them less than the whole.

ARTHUR PICKERING.
C. R. VICKERY.
CHAS. R. ATWOOD.
PHOENIX MANUFG. CO.,
By C. R. VICKERY, *Pres't.*

Witnesses to A. P.:

J. E. MAYNADIER,
J. E. KNOX.

Witnesses to C. R. V. and C. R. A.:

B. C. VICKERY,
EDWARD KING.

WILLIAM SMITH, OF PITTSBURG, PENN-
SYLVANIA.

APPARATUS FOR MAKING PLUMBAGO CRUCIBLES.

Specification forming part of Letters Patent, No. 40,506, dated No-
vember 3, 1863.

To all whom it may concern :

Be it known that I, William Smith, of the city of Pitts-
burg, in the county of Allegheny, and State of Pennsylvania,
have invented a new and useful Improvement in Apparatus
for Making Plumbago Crucibles; and I do hereby declare the
following to be a full, clear, and exact description thereof,
reference being had to the accompanying drawing, forming
part of this specification, which is a perspective representation
of my improved machine.

The ordinary mode of making plumbago crucibles is to
draw them up and shape them by hand on a wheel, but this
process is tedious and expensive, and requires the employ-

Statement of the case.

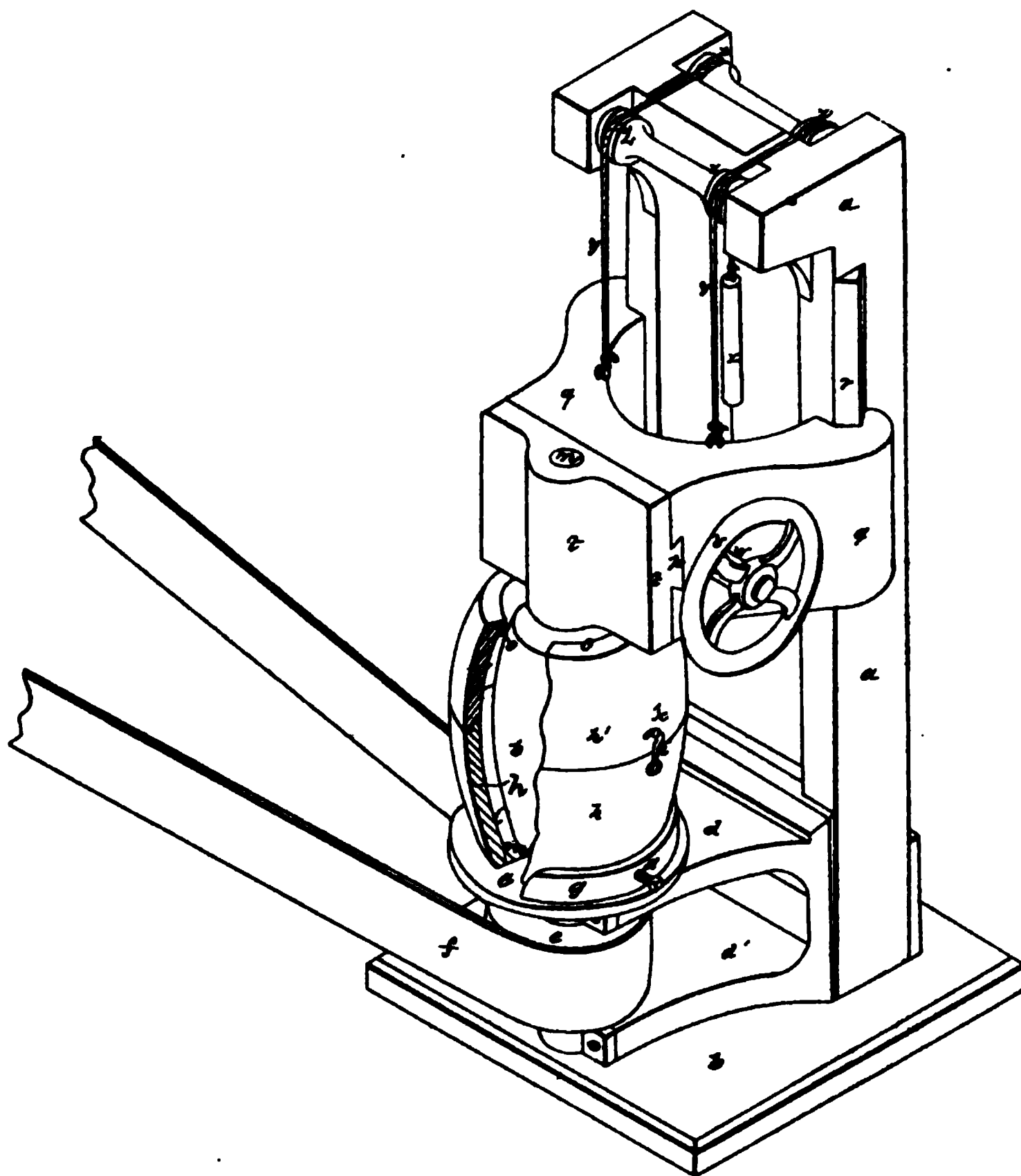
ment of expert mechanics. By my invention, however, I am enabled to make them in molds by machinery with very great rapidity and of any required shape with the utmost exactness, and at the same time secure all the advantages of hand-made crucibles, as the plumbago is worked and drawn up in the mold by means of a former, which presses the plumbago against the sides of the mold.

In the drawing, *a* is the upright frame of my machine, and *b* is the bed-plate. *c* is a horizontal disk or wheel the shaft of which revolves in bearings in the horizontal brackets, *d d'*, the lower one of which, *d'*, may rest on the bed-plate, *b*, as in the drawing. Between the brackets, *d d'*, and attached to the shaft of the wheel, *c*, is a pulley, *e*, which is caused to revolve rapidly by means of a belt, *f*, or otherwise, as may be convenient. Near the circumference of the wheel, *c*, is a circular flange, *g*, which serves to hold in place centrally on the wheel the lower section of the iron mold, *h*, by means of the set-screws, *s*. One set-screw only is seen in the drawing, the other being diametrically opposite to it. The mold, *h*, is made of cast-iron of any required shape; but if the crucible is designed to be of greater diameter in the middle than at top and bottom, as is usual with crucibles employed in the manufacture of steel, the mold is parted horizontally at the point where the width or diameter of the crucible is greatest. The upper section, *h'*, in such case is attached to the lower part by hooks, *i*, on one section passing over a pin, *k*, or through an eye in the other, there being a rabbet or lap at the joint of the two sections, *h* and *h'*, of the mold, as shown in the drawing, to insure an exact fit. In the drawing the mold is shown divided perpendicularly, but this is merely done to exhibit this rabbet or lap of the sections of the mold, and to show the former, *l*, inside of it.

The mold is made open at top, of course, and it has no bottom, the place of which is supplied by a circular plate of metal or wood, *m*, which is set on the wheel, *e*, and which fits in the mold at its lower end.

A former, *l*, which revolves on its axis on a vertical spindle,

W. Smith,
Crucible Molds.
No 40,506. *Patented Nov. 3, 1863.*



Witnesses:
J. H. Eyer
A. S. McMaster

Inventor:
Smith
is attorney
N. B. Russell

Statement of the case.

n, serves to work the plumbago inside of the mold and draws it upward, at the same time giving to the inside of the crucible the shape desired. This former is made of wood, and the curve of its side is that required to be given to the interior of the crucible; but its diameter is less than that of the cavity of the crucible, so that it may be drawn up out of the mold when the crucible is finished. The length of the former, *l*, is equal to the inside height of the crucible. The spindle, *n*, to which the former, *l*, is attached, and on which it revolves, is rigidly attached to the face-plate of the sliding bracket, *q*, which projects horizontally from the upright frame, *a*, of the machine and slides up and down on slides, *r r*, on the sides of the frame.

The bracket, *q*, is in two parts, it having a sliding face-plate, *t*, which is attached to the projecting extremity of the bracket by a dove-tailed tenon, *p*, working in a corresponding mortise in the bracket, by means of which the face-plate can be moved horizontally on the bracket, *q*. This motion is given by means of a hand-wheel, *v*, attached to a screw-shaft, *w*, which works in the bracket, *q*, the screw-threads working in a female screw cut in a tongue which projects inward from the face-plate, *t*, into a recess in the end of the bracket, *q*. The sliding bracket, *q*, is counterpoised by two weights, *x*, at the end of ropes, *y y*, which pass over pulleys, *z z*, at the top of the frame, *a*, and are fastened to the bracket, *q*.

Having thus described the construction of my apparatus for making crucibles, I will briefly explain the mode of operating it.

The batch from which the crucibles are made is composed of pulverized graphite or plumbago mixed with a suitable proportion of fire-clay and formed into a dough with water in the ordinary way. A lump of this batch of sufficient quantity to form the crucible, is placed in the bottom of the mold, the upper and lower sections of the mold being united and secured to the wheel, as before described, the circular plate or false bottom, *m*, being in its place, and the bracket, *q*,

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being raised so as to lift the former, *l*, entirely out of the mold before the batch is inserted. The wheel, *c*, is then rapidly revolved, which causes the mold also to turn on its axis, which is coincident with the axis of the wheel-shaft and center of the wheel, *c*. The sliding face-plate, *t*, of the bracket, *q*, is then set so that the axis of the shaft or spindle, *n*, is vertically over the mouth of the mold and with its axis in the same vertical line, which is done by turning the hand-wheel, *v*, until the ends of the face-plate, *t*, are flush with the sides of the bracket, *q*. The bracket, *q*, is then lowered, and the former, *l*, is pressed down into the plumbago batch in the bottom of the mold, the length of the former being such that when the bracket, *q*, is pressed down as far as it will go the lower extremity of the former, *l*, will be distant from the surface of the false bottom, *m*, of the mold the thickness which is required for the bottom of the crucible. The insertion of the lower end of the former, *l*, into the plumbago batch forces it up between the former and the inside of the mold, the batch being in a plastic condition. The hand-wheel, *v*, is then gradually turned, which moves the face-plate, *t*, and with it the former, *l*, to one side, thereby pressing the batch sidewise, reducing its thickness, and forcing it to rise uniformly all around the mold until it overflows at the top, if there be an excess of batch in the mold. This side motion of the former is continued until the surface of the former touches the top of the mold, which projects inward toward its center, as seen at *o* in the drawing, the projection, *o*, extending beyond the inner surface of the mold a distance equal to the thickness of the crucible at top. When the surface of the former comes in contact with the projecting rim, *o*, of the mold, the overflow of the plumbago batch is thereby cut off and the crucible is finished.

If it is desired to make the crucibles of the same thickness throughout, the curve of the face of the former, *l*, is made exactly similar to that of the inside of the mold, allowing for the relative distance of the curves from the centers of curvature; but if the thickness of the crucible is desired to be

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greater at one point than another the curve of the face of the former, *l*, differs accordingly from that of the inner face of the mold.

As the former revolves on its spindle, *n*, by contact with the plumbago batch, there is no rubbing on the inside of the crucible, but a smooth and regular surface is obtained, and the pressure of the batch between the former and the mold being gradually applied and operating to draw up the batch between the pressing surfaces, makes the crucible without seams or faults, and is therefore greatly preferable to the process of molding by direct pressure between two non-revolving surfaces.

When the crucible is formed, the former, *l*, is drawn back to the center of the mold and elevated out of it by throwing up the bracket, *q*, the hooks, *i*, of the mold are loosened and the upper section lifted off, and, the lower section being removed from the wheel, *c*, by loosening the set-screws, *s*, the finished crucible is raised up by means of the false bottom, *m*, and is then dried and annealed in the usual way.

By my machine a crucible may be made in two or three minutes.

What I claim as my invention, and desire to secure by Letters Patent, is—

Making plumbago crucibles in the manner substantially as hereinbefore described by means of a mold attached to a revolving wheel or disk and a former revolving freely on a non-revolving spindle attached to a slide-rest, susceptible of two motions, one parallel to the axis of the mold and the other at right angles thereto.

In testimony whereof the said William Smith has hereunto set his hand.

WM. SMITH.

Witnesses:

W. BAKEWELL,

J. C. ATTERBURY.

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JACOB WISE AND FREEMAN WISE, OF
FREDERICKTOWN, PA.

Letters Patent, No. 9,437. Dated November 30, 1852.

The schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that we, Jacob Wise and Freeman Wise, have invented a new and improved potter's wheel, and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same.

Our invention consists in the application, to the usual head-piece of a potter's wheel, of a rotary mold, which is removable at pleasure, and revolves with the head-piece ; and also of a frame carrying a mandrel or plunger, which being inserted into the clay, inside of the mould, shapes the interior of the vessel to be made, and presses the sides thereof into the mould, as it is revolving on the wheels.

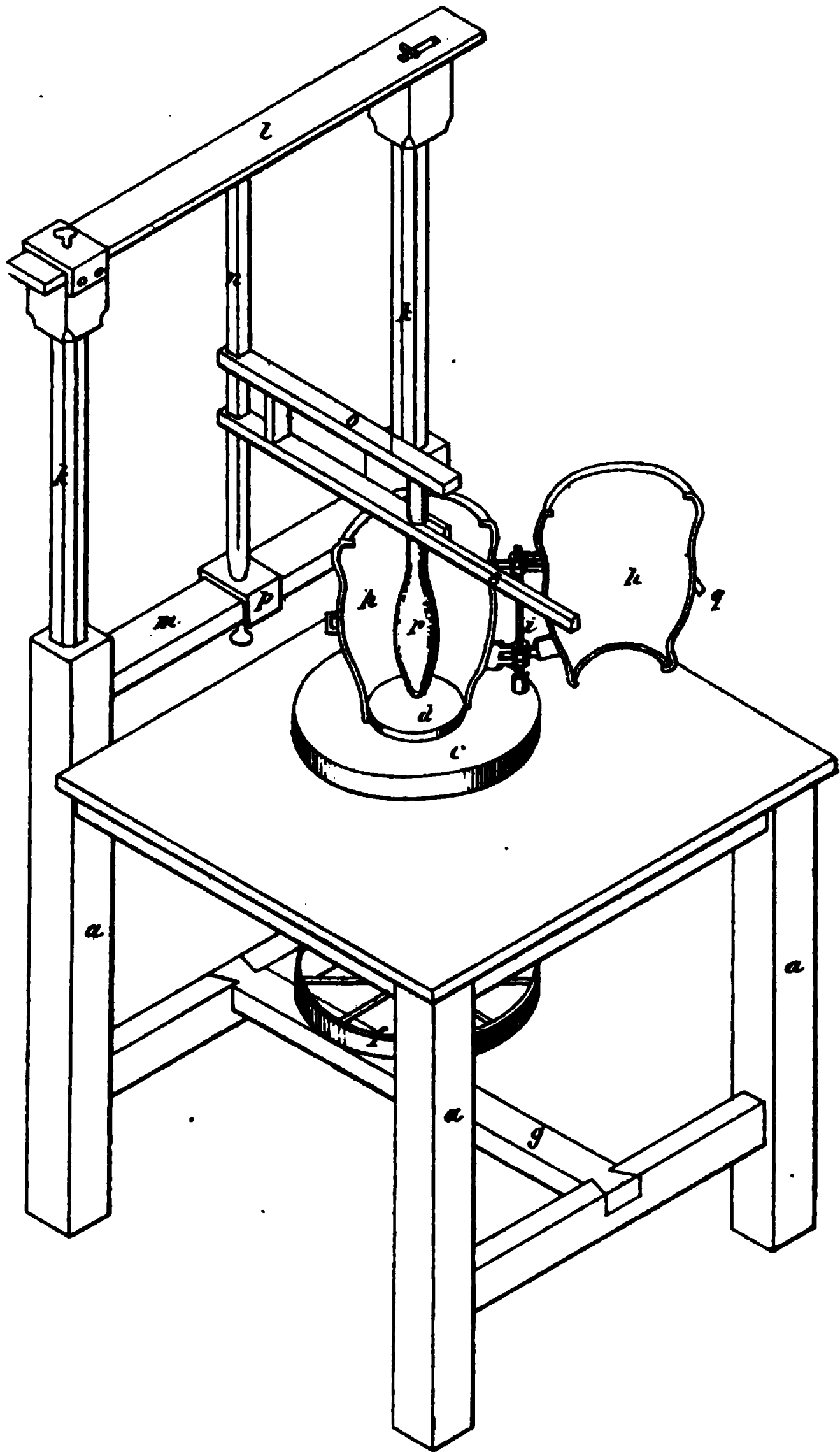
In the figure, *a a* represent the frame-work of the wheel, differing from the ordinary construction of potter's wheels, chiefly in the addition of the upright frame-work marked *k k*, etc. *c* is the head-piece, made in the usual manner. *d* is the block of the head-piece, or head-block, which is a part peculiar to our machine. It is made of wood, about one-fourth of an inch in thickness, and secured to the head-piece by means of three or more screws so as to be removable at pleasure, to suit the various moulds ; it is circular in shape and will vary in diameter according to the size of the mould in use. The head-piece is attached to the spindle or upright shaft and on the spindle is a pulley, *f*, to which the power is applied by means of a strap from the steam engine or other motive power. The upper end of the spindle is a screw, which screws into the head-piece, and by this means the head-piece can be taken off, when necessary, for purposes hereafter described. The lower end of the spindle works in a socket on the cross-tie, *g*, (see the figure.) The mould (marked *h* in the figure,) in which the earthen-

JACOB & FREEMAN WISE.

Machine for Making Earthen and Stone Ware.

No. 9,437.

Patented Nov. 30, 1852.



Statement of the case.

ware is made, is constructed of iron or other suitable materials. The interior of the mould is polished, and may be plain, or figured, according to the article to be manufactured, and forms a matrix on which the pottery is shaped. The top of the mould is furnished with a collar, which by lessening the diameter of the mould at the top, forms a resting place for the mandrel or plunger, and regulates the thickness of the earthenware when finished. The mould has no bottom, the place of which is supplied by the head-block, *d*, (see figure,) around which the lower edge of the mould fits accurately. This makes it necessary that the head-block should be movable, as before stated, in order that it may be changed to correspond with the mould, which it is desired to use. The mould is divided, longitudinally, into two equal parts, which are connected together by two hinges on one side and by a spring hasp or catch on the other, *q*, which keeps it tight when closed. The mould is attached to the head-piece by an iron rod, *i*, (see figure,) which passes through the head-piece, near its outer edge, and is secured by a screw nut underneath. The rod rising perpendicular to the head-piece, passes through the hinges of the mould, forming the axis on which they turn. The mould may be removed from the head-piece by simply lifting it up off the rod, when the two parts, having no longer any axis to their hinges, will separate. Another mould is attached to the head-piece by putting it together and passing the rod through its hinges; but if the rod is higher than the top of the mould it will have to be unscrewed and a shorter one put in its place, otherwise it would interfere with the action of the mandrel as hereafter described.

The mandrel frame is composed of two upright pieces, *k*, *k*, (see figure) and two cross-pieces one above, marked *l*, and the other below, marked *m*; also the upright post, *n*, which carries the mandrel lever, *o*, (see figure.) The post, *n*, is either square or round, and is so fixed as to turn round on its axis, and works in sockets, one of which is in the upper cross-piece, *l*, and the other in a slide marked *p*, (see figure) on the lower cross-piece. The mandrel lever, *o*, pro-

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jects from the post, *n*, (see figure) at right angles to it, and is attached to the post by means of two holes through which the post passes, sufficiently loose to permit of the lever being readily slipped up and down the post, and yet tight enough to keep it steady. It is prevented from sliding too far down by a pin in the post, *n*, or by a collar and screw. The mandrel or plunger, *e*, is of wood or iron, and depends from the lever at right angles to it, and parallel with the post, so as to be immediately over the spindle, and consequently exactly in the center of the mould. From the end of the lever, beyond the mandrel or plunger, a handle marked *s*, (see figure) projects, by which the lever is worked. The mandrel or plunger is made to revolve freely on its own axis, (which is parallel to the axis of the mould,) and is attached to the lever by being placed in a groove, and fastened with a pin so as to be removable at pleasure. The mandrel is made slender so as to sink easily into the clay, and will be either straight or curved as may be required by the shape of the mould in use, the shape of the mandrel being similar to that of the interior of the piece of pottery to be made. The length of the mandrel will depend on the depth of the mould and the thickness of the bottom which it is designed to give to the article to be manufactured. The upper cross-piece, *l*, is a separate piece from the rest of the machine, but is fixed on the top of the uprights, *k k*, (see figure) by means of a clamp with a screw to one side, and to the other by a screw which passes through a longitudinal slit in the piece, *l*. By means of this slit, and the clamp screw this cross-piece may be shifted along its length so as to throw the post, *n*, out of the perpendicular. This deviation from the perpendicular may be increased by moving the sliding socket, *p*, on the lower cross-piece, *m*.

The mould (marked *w*,) being shut and the mandrel raised out of it, and the clay to be made into the pottery is placed in the mould. The mould being caused to be revolved, the mandrel or plunger is lowered into the center of the mould, and sunk into the clay. The action of the clay in the revolving mould against the sides of the mandrel causes it to

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revolve on its own axis. The mandrel or plunger being inserted into the clay perpendicularly, the lever is moved by hand sideways, and pressed outward from the center of the mould. Thus the hole made in the clay by the mandrel is gradually enlarged, until it is left the requisite size for the interior of the earthenware, and the clay is raised in the mould till it completely fills it, leaving the sides of the vessel of uniform thickness. The plunger is pushed out towards the circumference of the mould till it rests against the collar at the top, which serves as a gauge for the thickness of the earthenware and prevents its being made too thin. The inside is made by the rolling of the mandrel perfectly smooth and even. It is necessary to use a small quantity of oil on the mould, and on the mandrel in order to prevent the adhesion of the clay to their surfaces, and to render the earthenware smooth. The mandrel is now brought back to the center, and raised out of the mould, and the mould thrown open, when the face of the earthenware will be left standing on the head-block. All that is necessary now is to separate it from the head-block in the usual manner. When the post is in a perpendicular position, the mandrel being so also, the sides of the article made in the mould will be, as stated before, of uniform thickness, but if it is desired to make the lower part of the vessel thicker or thinner than the upper part, it is to be effected by throwing the post, *n*, by the means before described, out of the perpendicular.

Claims: 1st. We claim the mode of attaching the mandrel so that it may revolve on its axis by means of friction with the clay and at the same time be moved from side to side within the mould.

2d. The mode adopted for varying the relative thickness of the different parts of the manufactured article.

JACOB WISE.
FREEMAN WISE.

Witnesses:

JAMES MOFFITT,
JESSE CALVERT.

Argument of counsel.

Mr. James E. Maynadier, for appellants :

The machine described in the Wise patent clearly lacks the rib of the Nimmo machine, and also lacks the stop of the Nimmo machine for giving uniformity of thickness in the walls of the crucibles. But it is also clear that the Wise machine has a revolving former, which, it is assumed in the patent, will operate as does the rib in the Nimmo machine ; and also has a flange at the mouth of the mold, which, it is assumed in the patent, will operate as does the lateral stop in the Nimmo machine. The same statements are true of the machine described in the Smith patent, except that the machine lacks not only the lateral stop, but also lacks the vertical stop ; but these two stops are both intended to be present in the Smith machine. The defendants put this part of their case apparently upon the well-settled rule that the mere substitution of old devices for performing desired functions is not invention.

To these patents the complainants make two answers : 1st. That the Wise and Smith patents are mere *paper* patents ; that is neither of them describes a machine which ever has been, or ever can be, put to any practical uses. 2d. That the revolving formers of Wise and Smith are neither the substitutes for, nor substantially the same as, the rib of the Nimmo machine.

The complainants submit that it is well-settled law that a patent, whether home or foreign, is void *in toto*, not only as a grant but also as a defence against a subsequent patent, if the thing described be not practically operative ; in other words, any patent in which the thing described is not practically operative, is, for all purposes, precisely on the same footing as an abandoned experiment.

The machine was not put in evidence ; was never shown to any of the complainants nor to any person in their interest ; and no offer was ever made by defendants to show their machine, until after the testimony was all taken and printed.

The evidence on behalf of the complainants is very full,

Argument of counsel.

direct, and positive, and it is most confidently submitted, establishes that the Wise and Smith machines can neither of them be used for any practical purpose.

The complainants refer to the following authorities for abandoned experiment :

Kinsman v. Parkhurst, 18 How. 289 [6 Am. & Eng. 273 ;] Union Sugar Refinery v. Matthiesson, 2 Fish. 600 ; Manny v. Jagger, 1 Blatch. 372 ; Howe v. Underwood, 1 Fish. 160.

Non-production of the alleged prior device :

Hayden v. Suffolk Co., 4 Fish. 95 ; Bailey Co. v. Lincoln, 4 Fish. 385 ; Masury v. Tieman, 4 Fish. 527 ; Blake v. Eagle Co., 4 Fish. 592 ; Blake v. Rawson, 1 Holmes, 200 ; Hall v. Bird, 3 Fish. 595 ; Coffin v. Ogden, 3 Fish. 641 ; Smith v. Glendale Co., 1 Holmes, 340 ; Gallahue v. Butterfield, 10 Blatch. 232 ; La Baw v. Hawkins, 6 O. G. 424.

The alleged prior machine must be capable of practical use :

Hayden v. Suffolk Co., 4 Fish. 101 ; Johnson v. McCullough, 4 Fish. 175 ; Roberts v. Dickey, 4 Fish. 545 ; Swift v. Whisen, 3 Fish. 360 ; Taylor v. Wood, 12 Blatch. 100 ; Seymour v. Osborne, 11 Wall. 516 [8 Am. & Eng. 290 ;] Cohn v. Corset Co., 93 U. S. 366 [10 Am. & Eng. 473 ;] Union Mnfg. Co. v. Lounsbury, 2 Fish. 389 ; Graham v. Mason, 5 Fish. 8 ; Reeves v. Keystone Co., 5 Fish. 465 ; Jenkins v. Walker, 1 Holmes, 120.

Mr. Wm. Bakewell, for appellees :

This patent contains all the elements of the Nimmo reissue, and is a complete anticipation. The guiding mechanism of the Smith machine, and of the Wise machine are the equivalents of the guiding mechanism in the Nimmo machine, and the revolving former of the Wise and Smith machines is the equivalent of the rib in the Nimmo machine, and the mold in the Smith machine being precisely like the mold in the appellee's machines (except that it is made of iron,) must be the equivalent of the mold in the Nimmo machine.

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It may, perhaps, be argued by appellants, that this reissue patent of Nimmo's was sustained and declared valid by Mr. Justice Clifford, in the case of *Pickering v. Phillips*, 10 O. G. 420. In that case, however, although the defence was set up that Nimmo was not the first inventor, no notice of special matter was given in the answer. The court says: "Such a notice was never given in this case, and of course the first defence must be overruled." None of the questions which arise in this suit were raised in the case decided by Mr. Justice CLIFFORD, so that there was no judicial examination or decision of the validity of the patent.

Apart from the question of novelty of the invention claimed by this patent, the claim of the Nimmo reissue must receive a very broad construction in order to establish any infringement by the appellees of the patent on which suit is brought.

If, however, this court is of opinion that the Nimmo claim can be construed so broadly as that the mold shall mean any kind of mold, and the mechanism for guiding the rib shall mean any device by which the rib is moved to and from the center of the mold, then I contend that there is no infringement, because the claim is not sustainable, and there is no infringement because the patent is invalid.

Mr. Justice MATTHEWS delivered the opinion of the court:

This is a bill in equity, filed by the appellants, to restrain the appellees from infringing reissued letters patent, No. 6,166, dated December 8, 1874, to George Nimmo, for an improvement in molding crucibles, and for an account, the patent having been reissued to the complainants as assignees of Nimmo, the inventor and original patentee.

The original patent, No. 49,140 (a) was granted to Nimmo June 20, 1865. (b)

The subject of the alleged invention is an improvement in

104 U. S. 310.

(a) Otto substitutes for from a to b, "granted to him bears date August 1, 1865."

Opinion of the court.

the manufacture of molding crucibles and pots, made of a plastic material, composed of plumbago, or so-called black-lead and fire-clay, used principally in the manufacture of steel. They were formerly made by hand, on a common potter's wheel, the hand and eye of the skilled workman building them up as the material revolved upon the wheel in the desired shape. It is recited in the original patent to Nimmo, that they had also been made in a mold, by a pressing instrument, for which reference is made to letters patent granted October 26, 1852, to John Akrill. It is stated also by Nimmo, in the specification to his original patent, that "Difficulty has heretofore been experienced in removing the crucibles from the mold, in consequence of the adhesive nature of the black-lead compound or mixture employed for such crucibles. The amount of water, also, that is required to make the mixture sufficiently plastic, causes the material frequently to crack and break in shrinking as it dries."

The following is the description of the invention, as contained in the specification, referring to the drawing accompanying it:

"The nature of my said invention consists in the manufacture of crucibles in a plaster mold, which gives shape to the pot externally and absorbs the moisture from the pot, causing it to dry uniformly and at the same time shrink away from the mold, preventing the air acting on the outside of the pot until after the moisture has been mostly absorbed, and prevents the pot from splitting or cracking from unequal contraction in drying. I mount my plaster mold in a revolving chuck, and employ a rib attached to a lever for spreading the plastic crucible material on the inside of the mold, and at the same time hardening, consolidating, and polishing the crucible on the inside by means of said rib.

"In the drawings is a bed carrying the vertical spindle, on the upper end of which is the hollow chuck, into which the plaster mold fits, and these parts are revolved by a belt

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to a wheel and crank, or by any other competent means. Near the chuck is an upright frame, with rollers over which the chain or rope passes, on one end of which is the counterweight, and on the other the lever, having a handle at one end and carrying the rib. This lever is guided by the upright frame, and when not in use is drawn up by the weight. The crucible material is placed in the plaster mold, and partially spread by hand or by a conical muller. The back end of the lever is then brought beneath the stop or fulcrum, and pressed down until the lever takes a stop. The rib on the lever smooths, compresses, hardens, and polishes the interior of the mold, forming a perfect crucible, possessing great strength and beauty. At the same time there is great uniformity in the crucibles made in this manner. The crucible and mold are to be lifted off the chuck, and another mold introduced in the chuck, and the operation repeated.

"The crucible and mold are set aside. When the plaster of the mold has absorbed the moisture from the crucible, and the crucible has contracted away from the mold, and become sufficiently dry to be exposed to the air without risk of cracking, the crucible is to be removed and dried in any usual manner, and may be baked or burned."

The claims are as follows:

"What I claim and desire to secure by letters patent is—

"1. Manufacturing crucibles in a plaster mold, in the manner and for the purposes specified.

"2. Lever, *l*, and rib, *n*, applied in the manner specified to form the interior of a crucible contained within a revolving mold, as set forth.

"3. The combination of the revolving chuck, *c*, plaster mold, *d*, lever, *l*, and rib, *n*, as and for the purposes specified.

"4. Mounting the lever, *l*, and rib, *n*, in the frame, *g*, in the manner specified, in combination with the counterpoise, *k*, fulcrum, *o*, and stop, *p*, for determining the size of the interior of the crucible, as specified."

It is conceded by counsel for the appellants that the claims

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in this patent were invalid, as being too broad, and that it was for this reason, and for a more definite and limited description of the real invention intended to be claimed, that it was surrendered and reissued.

The state of the art, at the date of his original patent, is described by Nimmo in the reissue, as follows:

“ Long prior to said Nimmo’s invention, the mode of manufacturing certain articles of pottery by means of a rib or former to give the desired shape to the inside of the article, and a revolving plaster vessel to properly present the ‘ball’ (as the lump of tempered clay is called) to and support it under the action of the rib, was well known ; but this mode of manufacture was not applicable in the manufacture of crucibles, because the apparatus was such that the crucible would be injured or destroyed in removing the rib, by the end of the rib striking the upper part of the crucible, as will be plain to all skilled in the art of crucible-making, and acquainted with the mode of manufacture above referred to.

“ Another mode of manufacturing certain articles of pottery-ware by means of a rib or former for the inside of the article, and a revolving table (a common potter’s wheel) which partially presented the ball to and supported it under the action of the rib, the workman using his hands to aid in presenting the ball to and supporting it under the action of the rib, is described in a French work published in 1857, entitled ‘ *Lecons de Ceramique*,’ par M. A. Salvetat, volume second, pages 121–122. This last named mode of manufacture was applicable to the manufacture of crucibles, the apparatus being such that the rib was guided so as to cause it to approach the axis of the pot, where it was necessary that it should do so in order to prevent injury to the pot; but, even if useful at all in that manufacture, it is, without doubt, very much inferior to the mode of manufacture invented by Nimmo, and hereinafter described, the distinguishing difference between them being that the ball is presented to the rib and supported under its action, not by a flat revolving

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metal disk, but by a vessel made of plaster, which takes the place of both the flat revolving disk and the workman's hands, performing all the functions performed by this disk and the hands of the workman, but in a much more perfect manner and in less time.

The invention of said Nimmo is, in fact, an improvement on the mode of manufacture, as well as on the apparatus, described in Salvetat's work, the improvement consisting in the different mode of presenting and supporting the ball; but we do not wish to be understood as claiming this mode of presenting and supporting the ball as the invention of said Nimmo, as his improved mode of manufacture is new solely because it is, as a whole, substantially different from the mode described by Salvetat, and from the mode first above referred to; indeed, as a short, general description of Nimmo's improved mode, it may be said to be substantially the same as that described by Salvetat, so far as shaping the inside of the crucible is concerned, and substantially the same as the mode first above referred to, so far as presenting the ball to and supporting it under the action of the rib is concerned. By Nimmo's improved mode of manufacture much labor and expense are saved and, what is still more important, crucibles are produced which are superior to those made by any practical mode known prior to said Nimmo's invention, in many very important respects."

The drawings are the same in both the original and reissued patent, but in the description of the machine, with reference to the drawing contained in the reissue, prominence is given to the mode of operating the rib, after the crucible is formed, by which it can be withdrawn without striking and injuring the crucible, as to which no allusion was made in the original patent. It is admitted, however, that this mechanism is substantially the same as that described by Salvetat in the publication referred to.

The reissue expressly disclaims as the invention of Nimmo both the modes and both the apparatus above mentioned,

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that is, the use of a rib or former to give the desired shape to the inside of the article, and the revolving plaster vessel or mold; and the mode and apparatus described by Salvetat, that is, the use of a rib or former, the apparatus being such that the rib is guided so as to cause it to approach the axis of the crucible, when it was necessary that it should do so in order to prevent injury to it.

The importance of this feature in any apparatus of the kind becomes manifest from the fact that crucibles of the character of those intended to be made by this process, usually have what is termed "a bilge," that is, are smaller in circumference at the mouth or top than at some other point; so that if the rib or former were lifted out perpendicularly from the position it occupies while in operation, it would necessarily strike against the interior surface of the crucible as it rose. To avoid this, it has to be withdrawn from the position it occupies while in the act of forming the internal surface of the crucible, to one nearer to the axis of rotation, so that being lifted, it may pass upward through the mouth of the crucible without striking against the sides. And considering how characteristic is this feature of the apparatus, and how essential it is to its profitable use, it is worthy of note that Nimmo, in his original patent, does not allude to it, although his claim for managing his rib includes it; and equally so, that it does not seem to have suggested to him, at that time, its utility in connection with the manufacture of crucibles with a bilge, for his description does not distinguish between those which have and those which have not a bilge, and his drawing is that of a mold with a flaring mouth, for the making of which such a motion of the former, in withdrawing it, is not necessary. In addition, the mold itself, made of plaster, for vessels having a bilge, is required to be in two parts, in order that it may be removed from the crucible after the operation is complete; an adaptation which does not appear either in Nimmo's specifications or drawing.

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Nimmo's actual claim, as made in the reissue, is as follows:

"The improved apparatus above described, having the specific character, objects, and functions above explained, and consisting of the rib, the revolving mold, and the mechanism by which the rib is guided toward the axis of revolution of the mold as it is withdrawn, as set forth, these elements being claimed only in combination each with all the others, and no claim is made to any combination of any of them, less than the whole."

It is admitted in argument by counsel for the appellants that the mold is old and the rib is old, but it is claimed that prior to Nimmo's invention the mechanism for combining the rib and mold into one machine was such, that the rib could not be moved bodily toward the axis of the mold or away from that axis.

Besides a denial of the alleged infringement, the appellees maintained several defences. They claimed that the reissued patent is void: because the claim is too broad; because there is no co-active combination between the elements of the claim; because the state of the art, as set forth in the specification, shows that there is no novelty in the alleged combination; because the reissue is for a different invention from that described in the original patent; and because the alleged invention of Nimmo had been fully anticipated. The anticipations set out in the answer and relied on, were:

1. By the Salvetat publication.
2. By the Wise patent, being a patent granted to Jacob Wise and Freeman Wise, dated November 30, 1852, No. 9,437, for an "improvement in the manufacture of stone and earthenware."
3. By the Smith patent, being a patent granted to William Smith, dated November 3, 1863, No. 40,506, for apparatus for making plumbago crucibles.
4. By prior knowledge and use of the alleged invention at Kier's works in Pittsburgh.

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The decree below dismissed the bill, to reverse which this appeal is prosecuted.

The account given in the specifications of the reissued patent, of the state of the art at the date of the alleged invention, and the reference to Salvetat's publication, describing the method and apparatus referred to, and a comparison of that with the claims and disclaimers of the appellants, require a more particular examination of Salvetat's description of the device and its mode of operation, as contained in his publication. It will be observed that the reissue represents Salvetat as having fully described the rib or former, and the mechanism which guides it so that it can be withdrawn from the crucible, when completed, without injury, even when it has a bilge; but as omitting, in connection with it, any use of a mold. The statement of the reissue is, that while Salvetat described the use of the rib for forming the interior of the vessel, its external form was molded by the unassisted hand of the workman, manipulating the ball while revolving on the flat disk of the common potter's wheel. And the alleged invention of Nimmo consists merely in adding a mold to the apparatus described by Salvetat to form the combination which he claims as his invention.

An examination of the extract from Salvetat's publication, descriptive of this apparatus and method, which is contained in the record, makes it doubtful whether the account of it given in the specification of the reissued patent is not a misconception. The drawings illustrating it, it is true, do not show a mold, and the text in referring to them says the vessel is supported by the wheel. But this, perhaps, is explained by the statement that it is intended to show merely how Messrs. Bourgon and Chalot, the originators of it, have arranged the rib in a very ingenious manner for hollowing out hollow ware with the rib itself. The whole article or chapter is entitled, "Hollow-ware Pressing in Plaster Molds," and its very purpose seems to be to explain the use and utility of molds in shaping the forms of

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pottery by pressing, and all the other processes and devices mentioned certainly refer to molds as used. If the rule, "*noscitur a sociis*," applies, there would be little room to doubt that the one in question also contemplated their use, and it seems difficult to understand how the vessel can be shaped externally unless the mold is implied.

But we assume, for the purpose of this case, that the account, as contained in the reissued patent, of this method and apparatus, is correct, and that Salvetat does not describe the use of a mold in combination with the rib. There is, however, no doubt whatever that Salvetat describes the operation of a rib, by means of a mechanism which directs it in the formation of the interior of a vessel, while in motion on a revolving wheel, and guides it when the vessel is formed, even when it has a bilge, so that by bringing it into a proper relation with the axis of revolution, it can be withdrawn from the side of the vessel, which it has shaped, and lifted through its mouth or top, without touching and injuring its sides. This is conceded by the appellants, and is admitted in the patent itself. It is also confessed that the use of the mold for supporting the ball, while the rib or former presses it on the inside, and thus shapes its corresponding outside, is old and is not of itself claimed as the invention of Nimmo. The alleged invention, then, consists merely in supplying to the apparatus described by Salvetat a mold for supporting the ball and giving shape externally to the crucible.

We are clearly of opinion that this is not patentable. It comes plainly within the rule, as stated by Mr. Justice STRONG, in *Hailes v. Van Wormer*, 20 Wall. 368 [9 Am. & Eng. 340,] where he said :

"All the devices of which the alleged combination is made are confessedly old. No claim is made for any one of them singly, as an independent invention. It must be conceded that a new combination, if it produces new and useful results, is patentable, though all the constituents of

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the combination were well known and in common use before the combination was made. But the results must be a product of the combination, and not a mere aggregate of several results, each the complete product of one of the combined elements. Combined results are not necessarily a novel result, nor are they an old result obtained in a new and improved manner. Merely bringing old devices into juxtaposition, and then allowing each to work out its own effect, without the production of something novel, is not invention."

"The combination, to be patentable," said Mr. Justice HUNT, in *Reckendorfer v. Faber*, 92 U. S. 357 [10 Am. & Eng. 373,] "must produce a different force or effect or result, in the combined forces or processes, from that given by their separate parts. There must be a new result produced by their union; if not so, it is only an aggregation of separate elements."

In Nimmo's apparatus, it is perfectly clear that all the elements of the combination are old, and that each operates only in the old way. Beyond the separate and well-known results produced by them severally, no one of them contributes to the combined result any new feature; no one of them adds to the combination anything more than its separate independent effect; no one of them gives any additional efficiency to the others, or changes in any way the mode or result of its action. In a patentable combination of old elements, all the constituents must so enter into it, as that each qualifies every other; to draw an illustration from another branch of the law, they must be joint tenants of the domain of the invention, seized each of every part, *per my et per tout*, and not mere tenants in common, with separate interests and estates. It must form either a new machine of a distinct character and function, or produce a result due to the joint and co-operating action of all the elements, and which is not the mere adding together of separate contributions. Otherwise, it is only a mechanical juxtaposition, and not a vital union.

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In the case of this apparatus, the mold was known, and a rib or former was known, and their use in combination was known. Salvetat described a rib, so arranged that after it had performed its function in shaping the interior of the vessel, it could be withdrawn, through the top of the vessel, so as not to produce injury by striking against its side. This rib Nimmo substituted for the old one in the same combination. And this is the whole of the invention. Upon the principle stated, there is no invention in it.

We are, also, of opinion, that the invention claimed for Nimmo, as described in the reissued patent, is covered by the prior patents to Wise and to Smith.

Undoubtedly, they both embody the principle of a former used in combination with a mold, for the purpose of manufacturing crucibles, connected so that the former can be withdrawn in the case of vessels having a bilge without injury.

It is objected, however, that the machines described in these patents are mere paper machines, not capable of successful practical working. But on examination it sufficiently appears, we think, that the objections can be sustained only as to minor matters of detail in construction, not affecting the substance of the invention claimed, and could be removed by mere mechanical skill, without the exercise of the faculty of invention. In this view, the Wise and Smith patents are not rendered inefficient as defences in this suit, by reason of the alleged imperfections of the machines described in them.

The bill of the appellants was dismissed by the court below, on the ground of the prior knowledge and use of the alleged invention at Kier's works in Pittsburgh. We are of opinion that the testimony sustains that finding.

(c) We find no error in the decree, *and it is, accordingly, affirmed.* (d)

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(c) Otto substitutes for from c to d, "Decree affirmed."

Notes and citations.

Notes:

1. Aggregation:

Hailes v. Van Wormer, 20 Wall. 353 [9 Am. & Eng. 340.]
Reckendorfer v. Faber, 92 U. S. 347 [10 Am. & Eng. 373.]
Harness Co. v. Welling, 97 U. S. 7 [11 Am. & Eng. 479.]
Sawyer v. Bixby [12 Am. & Eng. 332.]
Packing Co. Cases, 105 U. S. 566.
Tack Co. v. Two Rivers Mnfg. Co., 109 U. S. 117.
Bussey v. Excelsior Mnfg. Co., 110 U. S. 131.
Stephenson v. Railroad, 114 U. S. 149.
Beecher Mnfg. Co. v. Atwater Mnfg. Co., 114 U. S. 523.
Thatcher Heating Co. v. Burtis, 121 U. S. 286.
Mosler Safe, etc., Co. v. Mosler, Bahmann & Co., 127 U. S. 354.
Hendy v. Golden State, etc., Works, 127 U. S. 370.

Patent in suit:

No. 49,140. Nimmo, G. August 1, 1865. Reissue No. 4,608. October 24, 1871. Molding Crucibles and Pots.

OTHER SUITS ON SAME PATENT:

Pickering v. Phillips, 1876. 4 Cliff. 383; 10 O. G. 420.
Pickering v. McCullough, 1878. 3 Ban. & Ard. 279; 13 O. G. 818;
6 Reporter, 101.

Cited:

IN SUPREME COURT IN:

Stephenson v. Brooklyn Cross Town R. Co., 1885. 114 U. S. 149;
Bk. 29 L. ed. 58.

Notes and citations.

Beecher Mnfg. Co. v. Atwater Mnfg. Co., 1885. 114 U. S. 523; Bk. 29 L. ed. 232.

Mosler Safe and Lock Co. v. Mosler, Bahmann & Co., 1888; 127 U. S. 354; Bk. 32 L. ed. 182.

Hendy v. The Golden and State & Miner's Iron Works, 1888; 127 U. S. 370; Bk. 32 L. ed. 207.

IN CIRCUIT COURTS IN :

Doubleday v. Roess, July, 1880. 11 Fed. Rep. 737; 22 O. G. 861.
Perry v. Co-operative Foundry Co., May, 1882. 20 Blatch. 498; 12 Fed. Rep. 436; 22 O. G. 1623.

Clark Pomace Holder Co. v. Ferguson, July, 1883. 21 Blatch. 376; 17 Fed. Rep. 79; 24 O. G. 1090.

Bradley & Hubbard Mnfg. Co. v. The Chas. Parker Co., July, 1883; 17 Fed. Rep. 240; 24 O. G. 995.

Tower v. Bemis & Call Hardware & Tool Co., February, 1884. 19 Fed. Rep. 498.

Brush v. Condit, July, 1884. 22 Blatch. 246.

Sessions v. Romadka, July, 1884. 21 Fed. Rep. 124; 28 O. G. 721.

Hayes v. Bickelhaupt, Sr., August, 1884. 22 Blatch. 463; 21 Fed. Rep. 566; 29 O. G. 368.

Mosler Safe & Lock Co. v. Mosler, February, 1885. 22 Fed. Rep. 901; 31 O. G. 1689.

New York Bung & Bushing Co. v. Doelger, March, 1885. 23 Blatch. 167; 23 Fed. Rep. 191; 32 O. G. 651.

Peard v. Johnson, April, 1885. 23 Fed. Rep. 507; 32 O. G. 895.

Scott Mnfg. Co. v. Sayre, August, 1885. 26 Fed. Rep. 153; 35 O. G. 255.

Niles Tool Works v. Betts Machine Co., April, 1886. 27 Fed. Rep. 301.

Leonard v. Lovell, December, 1886. 29 Fed. Rep. 310.

Notes and citations.

Schlicht and Field Co. v. Sherwood Letter File Co., November, 1888.

36 Fed. Rep. 589.

Brinkerhoff v. Aloe, December, 1888. 37 Fed. Rep. 92.

IN DECISIONS OF COMMISSIONER OF PATENTS IN:

Ex parte Marshall, November, 1883. 25 O. G. 882.

IN CANADIAN COURTS IN :

Smith v. Goldie, June, 1882. 7 Ontario App. R. 628.

Hunter v. Carrick, October, 1884. 10 Ontario App. R. 449.

IN TEXT-BOOKS:

2 Abb. Pat. Laws, 1886, pp. 52, 53.

Merwin on Pat. Invt., 1883, pp. 400, 639, 677, 725.

Walker on Pats., 1883, pp. 21, 24, 48.

Syllabus.

FRANCES LEE EGBERT, EXECUTRIX OF SAMUEL H. BARNES, Deceased, APPELLANT, v. PHILLIP LIPPMANN ET AL.*

104 (14 Otto) U. S. 333-339. Oct. Term, 1881.

[Bk. 26, L. ed. 755; 21 O. G. 75.]

Affirming *Ibid*, 15 Blatch. 295.

Argued November 11, 14, 1881. Decided December 12, 1881.

Public use with consent of inventor. Particular patent held void for prior public use.

1. When the inventor made and gave to a person for use two pairs of corsets, imposing no obligation of secrecy or any condition or restriction whatever, and it appeared that the invention was at that time complete, and the donee used them for a series of years before the filing of the application for a patent in the manner and for the purpose designed by the inventor, *held*, that the patent, reissue No. 5,216, S. H. Barnes, January 7, 1873, (original No. 56,345, July 12, 1866,) Corset-Spring, was invalidated by virtue of the public use with the consent and allowance of the inventor for more than two years prior to the filing of the application. (p. 279.)
2. To constitute the public use of a patent it is not necessary that more than one of the patented articles should be publicly used. The use of a great number may tend to strengthen the proof of public use, but one well defined case of public use is just as effectual to annul the patent as many. (p. 281.)
3. Whether the use of an invention is public or private does not necessarily depend upon the number of persons to whom its use is known. (p. 281.)
4. If an inventor, having made his device, gives or sells it to another, to be used by the donee or vendee without limitation or restriction or injunction of secrecy, and it is so used, such use is public within the meaning of the statute, even though the use and knowledge of the use may be confined to one person. (p. 281.)

*See Explanation of Notes, page III.

Argument of counsel.

5. A use of an invention is a public use within the meaning of the law if the inventor sells a machine of which his invention forms a part and allows it to be used without restriction of any kind, although, owing to the character of the invention, it can only be used when it cannot be seen or observed by the public eye. (p. 281.)
6. A use necessarily open to the public view, if made in good faith solely to test the qualities of the invention, and for the purpose of experiment, is not a public use within the meaning of the patent law. (p. 281.)

[Citations in the opinion of the court :]

Elizabeth v. Pavement Co., 97 U. S. 126 [11 Am. & Eng. 514.] p. 282.

Shaw v. Cooper, 7 Pet. 292 [4 Am. & Eng. 286.] p. 282.

Appeal from the Circuit Court of the United States for the Southern District of New York.

The case is stated by the court.

Messrs. J. C. Clayton, George Gifford, and A. Q. Keasbey, for appellants:

Samuel H. Barnes made the invention which is the subject of the complainant's patent in 1855. He did not apply for a patent until a short time before he died, because, in the language of his widow, "From the time I knew him until the time he died, he was always sick with consumption, poor, and low spirited, and in trouble." "He always intended to patent it, and did so at last in the hope of leaving something for my support."

[It was then shown by the testimony of several witnesses that in 1855 he made a pair of the corset steels for the lady who was afterwards his wife. She wore them until worn out when he made her another pair, and he also made a pair of the steels for Mrs. Bower, in 1863, to try the effect on a very stout lady.]

This is the whole testimony as to public use.

Was it such a use as, if continued more than two years, brought about "the peremptory consequence" of invalidat-

Argument of counsel.

ing the patent afterwards obtained, as held by the circuit judge?

The legal principles which govern the subject are fully stated by CLIFFORD, J., in *Jones v. Sewall*, 6 Fish. 343.

“Patents otherwise valid may be avoided in a suit for infringement, by proof that the invention was in public use and on sale more than two years, *with the consent and allowance of the patentee*, before he filed his application for a patent. *Agawam Co. v. Jordan*, 7 Wall. 607 [8 Am. & Eng. 24;] *McClurg v. Kingsland*, 1 How. 209 [4 Am. & Eng. 382;] *Stimpson v. Railroad*, 4 How. 380 [4 Am. & Eng. 398;] *Shaw v. Cooper*, 7 Pet. 318 [4 Am. & Eng. 286.]”

“If the sale or use is without the consent or allowance of the inventor, or if the use is merely experimental, to ascertain the value, utility, or success of the invention, by putting it into practice, that is not such a sale or use as will deprive the inventor of his title. *Ryan v. Goodwin*, 3 Sumn. 518; *Pitts v. Hall*, 2 Blatch. 229; *McCormick v. Seymour*, 2 Blatch. 240.”

“Such acts of an inventor, it is well held by Judge Story, are to be liberally construed as acts of an experimental character, nor is the inventor to be estopped by allowing a few persons to use his invention, to ascertain its utility, or by any such acts of use or indulgence to others to use the same, as are not inconsistent with the clear intention to hold the exclusive privilege, and to secure the same by letters patent. *Mellus v. Silsbee*, 4 Mason, 111.”

“Where the party has subsequently taken out a patent the Court is not authorized to give effect to such a defence to a charge of infringement, except in cases where the proof is clear and cogent. *Wyeth v. Stone*, 1 Story, 281.”

“Public use of an invention, unless by the patentee himself, for profit, or by his consent and allowance, will not work a forfeiture of his title, as such forfeiture is not favored unless it clearly appear that the use was solely for profit, and not with a view of further improvements or of ascertaining its defects, or for any other purpose of experiment in reduc-

Argument of counsel.

ing the invention to practice." *Pitts v. Hall*, 2 Blatch. 236.

Upon these principles the question here is:

If a man seeing the needs of an intimate friend arising from defects in corset steels is led to invent a great improvement, and gives her two in succession to test its qualities, and with the intention of procuring a patent, the friend thus testing his invention, meanwhile becoming his wife; and further to try its value on a different form gives one to a stout lady, also his friend, for that purpose, and such use on these two forms continues over two years, while he is delayed in obtaining a patent by sickness, is such use legally *public* under the statute, so as to work a forfeiture of the letters patent, as a "peremptory consequence" of this plan adopted by the inventor to secure a test of his invention?

Mr. Barnes made an important improvement, now come into universal use. He tested it in the only way possible for such an article, and to the most limited extent consistent with his object. He always had, and adhered to an intention to secure it by letters patent, but, delayed by sickness and poverty, was only able to do it at last, hoping to keep a provision for his wife, who had enabled him to test it.

The prior use proved was neither an abandonment nor a *public* use. The sole effect, then, of that proof was to establish the date of invention, which antedated all the alleged prior uses set up by the defendants.

City of Elizabeth v. Pavement Co., 97 U. S. 126 [11 Am. & Eng. 514;] *Jones v. Sewall*, 3 Cliff. 563; *Agawam Co. v. Jordan*, 7 Wall. 583 [8 Am. & Eng. 24;] *Coffin v. Ogden*, 18 Wall. 128 [9 Am. & Eng. 125;] *Haselden v. Ogden*, 3 Fish. 378; *Cahoon v. Ring*, 1 Fish. 397; *Adams v. Edwards*, 1 Fish. 1; *Russell Mnfg. Co. v. Mallory*, 10 Blatch. 140; *Shaw v. Cooper*, 7 Pet. 292 [4 Am. & Eng. 286;] *American Leather Co. v. American Tool Co.*, 4 Fish. 282; *Consolidated Fruit Jar Co. v. Wright*, 12 Blatch. 149; *Webster v. Carpet Co.*, 5 O. G. 522.

Argument of counsel.

Mr. John B. Staples, for appellees:

The evidence upon which the Court below based the decision dismissing the bill, is in the depositions of the complainant herself, and of two other witnesses, Sturgis and Bower, introduced on the part of the complainant.

The Court below, with characteristic sagacity, appreciated the effect of that evidence as showing a public use with consent of patentee, more than two years before his application for the patent; the Court has with clearness and precision pointed out the effect of this statute upon this patent.

So clear did the evidence and law upon this point appear to the Court, that no further examination of, or decision upon, the large amount of other testimony taken by the defendants, or upon other points of law raised, was thought necessary. When the Court finds in the testimony of plaintiff herself and her witnesses undisputed evidence, which brings the plaintiff's case directly and obviously within the provisions of the statute, which is fatal to the patent, it would appear to be superfluous for the Court to examine and decide upon the other numerous questions raised and large amount of evidence on the part of defendants.

The testimony of a number of experienced and intelligent experts who gave evidence on the part of the defendants in the Castle suit, describes the corset steels and exhibits of Earwicker, of Sherman, of Seville, of Schnelle, of Geering, which have been introduced in evidence by defendants; and they point out and describe wherein and how each of the devices set forth in the three several claims of the present reissued Egbert patent, of 1873, is embodied in, and anticipated by, the said several corset steels made and used by said Sherman and the others above named.

From the various exhibits and by the testimony of the several witnesses as to their common and public use, so many years back of Barnes' alleged invention, patent, and application, it appears conclusively, that every feature set forth in the three claims in the present Egbert reissue are void for want of novelty; but if the essence or substance of Barnes'

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first patent and his real invention, as he himself supposed, is the use of the slotted holes and the headed rivets, with a short re-enforcing plate, then the evidence and explanations of these experts clearly shows that they are only common and well-known mechanical equivalents of those shown in the said several exhibits, and the reissue is still void for want of novelty; besides which it is not proven nor pretended that the defendants in this action ever used the slots and pins, or a short re-enforcing plate.

Mr. Justice Woods delivered the opinion of the court:

This suit was brought for an alleged infringement of the complainant's reissued letters patent, No. 5,216, dated January 7, 1873, for an infringement in corset springs.

The original patent bore date July 17, 1866, and was issued to Samuel H. Barnes.

The reissue was made to the (a) appellant Frances Lee Egbert (b), executrix of the original patentee.

The specifications for the reissue declared:

"This invention consists in forming the springs of corsets of two or more metallic plates, placed one upon another, and so connected as to prevent them from sliding off each other laterally or edgewise, and at the same time admit of their playing or sliding upon each other in the direction of their length or longitudinally, whereby their flexibility and elasticity are greatly increased, while at the same time much strength is obtained."

The second claim was as follows:

"A pair of corset springs, each member of the pair being composed of two or more metallic plates, placed one on another and fastened together at their centers, and so connected at or near each end that they can move or play on each other in the direction of their length."

The bill of complaint alleged (c) that Barnes was the

(a) Otto substitutes for from *a* to *b* "complainant, under her then name, Frances Lee Barnes."

(c) Otto substitutes for "of complaint alleged" "alleges."

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original and first inventor of the improvement covered by the reissued letters patent, and that it had not, at the time of his application for the original patent, been for more than two years in public use or on sale, with his consent or allowance.

(*d*) The answer took issue on this averment and also denied infringement. The Circuit Court dismissed the bill and the complainant appealed to this court.

As to the second defence above mentioned, it is sufficient to say that the evidence establishes beyond controversy the infringement by defendants of the second claim of the reissued letters patent above set forth.

We have, therefore, to consider whether the defence of the public use of the patented invention, with the consent of the inventor, for more than two years prior to his application for the original patent, is sustained by the testimony in the record.

The 6th, 7th, and 15th sections of the act of July 4, 1836, 5 Stat. at L. 117, as qualified by the 7th section of the act of March 3, 1839, 5 Stat. at L. 353, were in force in 1866, when Barnes applied for his patent.

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(*d*) Otto substitutes for from *d* to *e* "The answer takes issue on this averment and also denies infringement. On a final hearing the court dismissed the bill, and the complainant appealed.

As to the second defence above mentioned, it is sufficient to say that the evidence establishes beyond controversy the infringement by the defendants of the second claim of the reissue.

We have, therefore, to consider whether the defence that the patented invention had, with the consent of the inventor, been publicly used for more than two years prior to his application for the original letters, is sustained by the testimony in the record.

The sixth, seventh, and fifteenth sections of the act of July 4, 1836, c. 357 (5 Stat. 117,) as qualified by the seventh section of the act of March 3, 1839, c. 88 (id. 353,) were in force at the date of his application. Their effect is to render letters patent invalid if the invention which they cover was in public use, with the consent and allowance of the inventor, for more than two years prior to his application. Since the passage of the act of 1839 it has been strenuously contended that the public use of an invention for more than two years before such application, even without his consent and allowance, renders the letters patent therefor void."

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The effect of these sections is to render letters patent invalid, if the invention which they cover was in public use with the consent and allowance of the inventor, for more than two years prior to his application for a patent. Since the passage of the act of 1839 it has been strenuously contended that a public use of an invention, for more than two years before the application for a patent, even without the consent and allowance of the inventor, rendered the patent therefor void. (*e*)

It is unnecessary in this case to decide this question, for the alleged use of the invention covered by the patent to Barnes is conceded to have been with his express consent.

The evidence on which the defendants rely to establish a prior public use of the invention, consists mainly of the testimony of the complainant herself, who is the executrix of the original patentee.

She testifies that Barnes invented the improvement covered by his patent between January and May, 1855; that between the dates named the witness and her friend, Miss Cugier, were complaining of the breaking of their corset steels. Barnes, who was present, and was an intimate friend of the witness, said he thought he could make her a pair that would not break. At their next interview he presented her with a pair of corset steels which he himself had made. The witness wore these steels a long time. In 1858 Barnes made and presented to her another pair, which she also wore a long time. When the corsets in which these steels were used wore out, the witness ripped them open and took out the steels and put them in new corsets. This was done several times.

It is admitted and, in fact, is asserted, by complainant that these steels embodied the invention afterward patented by Barnes and covered by the reissued patent on which this suit is brought.

Joseph H. Sturgis, another witness for complainant, testifies that in 1863 Barnes spoke to him about two inventions

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made by himself, one of which was a corset steel, and that he went to the house of Barnes to see them. Before this time, and after the transactions testified to by the complainant, Barnes and she had intermarried. Barnes said his wife had a pair of steels made according to his invention in the corsets which she was then wearing, and if she would take them off he would show them to witness. Mrs. Barnes went out and returned with a pair of corsets and a pair of scissors and ripped the corsets open and took out the steels. Barnes then explained to witness how they were made and used.

This is the evidence presented by the record, on which defendants rely to establish the public use of the invention by the patentee's consent and allowance.

The question for our decision is, whether this testimony shows a public use within the meaning of the statute.

We observe in the first place that to constitute the public use of a patent it is not necessary that more than one of the patented articles should be publicly used. The use of a great number may tend to strengthen the proof of public use, but one well-defined case of public use is just as effectual to annul the patent as many. (*f*)

For instance, if the inventor of a mower, a printing press, or a railway car, makes and sells only one of the articles invented by him, and allows the vendee to use it for two years, without restriction or limitation, the use is just as public as if he had sold and allowed the use of a great number.

We remark, secondly, that, whether the use of an invention is public or private, does not necessarily depend upon the number of persons to whom its use is known. If an inventor, having made his device, gives or sells it to another, to be used by the donee or vendee, without limitation or restriction, or injunction of secrecy, and it is so used, such

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(*f*) Otto adds, "McClurg v. Kingsland, 1 How. 202 [4 Am. & Eng. 382;] Consolidated Fruit Jar Co. v. Wright, 94 U. S. 92 [11 Am. & Eng. 46;] Pitts v. Hall, 2 Blatch. 229."

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use is public, within the meaning of the statute, (g) even though the use and knowledge of the use may be confined to one person.

We say, thirdly, that some inventions are by their very character only capable of being used where they cannot be seen or observed by the public eye. An invention may consist of a lever or spring, hidden in the running-gear of a watch, or of a ratchet, shaft, or cog-wheel covered from view in the recesses of a machine for spinning or weaving. Nevertheless, if its inventor sells a machine of which his invention forms a part, and allows it to be used without restriction of any kind, the use is a public one, within the meaning of the law. So, on the other hand, a use necessarily open to public view, if made in good faith solely to test the qualities of the invention, and for the purpose of experiment, is not a public use within the meaning of the patent law. *Elizabeth v. Pavement Co.*, 97 U. S. 126 [11 Am. & Eng. 514;] *Shaw v. Cooper*, 7 Pet. 292 [4 Am. & Eng. 286.]

(h) Tested by these principles, we think the evidence of
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(g) Otto omits "within the meaning of the statute,"

(h) Otto substitutes for from h to i, "Tested by these principles, we think the evidence of the complainant herself shows that for more than two years before the application for the original letters there was, by the consent and allowance of Barnes, a public use of the invention, covered by them. He made and gave to her two pairs of corset steels, constructed according to his device, one in 1855 and one in 1858. They were presented to her for use. He imposed no obligation of secrecy, nor any condition or restriction whatever. They were not presented for the purpose of experiment, nor to test their qualities. No such claim is set up in her testimony. The invention was at the time complete, and there is no evidence that it was afterwards changed or improved. The donee of the steels used them for years for the purpose and in the manner designed by the inventor. They were not capable of any other use. She might have exhibited them to any person, or made other steels of the same kind, and used or sold them without violating any condition or restriction imposed on her by the inventor.

According to the testimony of the complainant, the invention was completed and put to use in 1855. The inventor slept on his rights for eleven years. Letters patent were not applied for till March, 1866. In the meantime, the invention had found its way into general and almost universal use. A great

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the complainant herself shows that there was a public use of the invention, covered by the original patent to Barnes, for more than two years before the application for the patent, and by his consent and allowance. He made and gave to the complainant two pairs of corset steels, constructed according to his device, one in 1855 and one in 1858. They were presented to her for use. He imposed no obligation of secrecy, or any condition or restriction whatever. They were not presented for the purpose of experiment or to test their qualities. No such claim is set up in the testimony of complainant. The invention was at the time complete, and there is no evidence that it was afterwards changed or improved. The donee of the steels used them for years for the purpose and in the manner designed by the inventor. They were not capable of any other use. She might have exhibited them to any person she pleased, or might have made other steels of the same kind, and used or sold them without violation of any condition or restriction imposed on her by the inventor.

According to the testimony of complainant, the invention was completed and put in use in 1855. The inventor slept on his rights for eleven years. The patent was not applied for till March, 1866. In the meantime, the invention had found its way into general, and almost universal use. A great part of the record is taken up with the testimony of the manufacturers and venders of corset-steels, showing that before Barnes applied for his patent the principle of his device was almost universally used in the manufacture of corset-steels. It is fair to presume that having learned from this general use that there was some value in his invention,

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part of the record is taken up with the testimony of the manufacturers and venders of corset-steels, showing that before he applied for letters the principle of his device was almost universally used in the manufacture of corset-steels. It is fair to presume that having learned from this general use that there was some value in his invention, he attempted to resume, by his application, what by his acts he had clearly dedicated to the public.

Dissenting opinion.

Barnes attempted to resume, by an application for a patent, what by his acts he had clearly dedicated to the public. (i)

“An abandonment to the public may be evinced by the conduct of the inventor at any time, even within the two years named in the law. The effect of the law is that no such consequence will necessarily follow from the invention being in public use or on sale with the inventor’s consent and allowance, at any time within two years before his application, but that if the invention is in public use or on sale prior to that time, it will be conclusive evidence of abandonment, and the patent will be void.” *Elizabeth v. Pavement Co.*, 97 U. S. 126 [11 Am. & Eng. 514.]

We are of opinion that the defence of two years’ public use, by the consent and allowance of the inventor, before he made application for his patent, is satisfactorily established by the evidence. *The decree of the Circuit Court is, therefore, affirmed.*

Mr. Justice MILLER, dissenting:

The 6th section of the act of 1836 made it a condition of the grant of a patent that the invention for which it was asked should not at the time of the application for a patent, “have been in public use or on sale with the consent or allowance” of the inventor or discoverer; and section 15 of the same act declared that it should be a good defence to an action for infringement of the patent, that it had been in public use or on sale with the consent or allowance of the patentee before his application. This was afterwards modified by the 7th section of the act of 1839, by declaring that no patent should be void on that ground unless the prior use had been for more than two years before the application.”

This is the law under which the patent of plaintiff in this case is held void by the opinion just delivered. The previous part of the same section requires that the invention must be one “not known or used by others” before the

Dissenting opinion.

discovery or invention made by the applicant. In this limitation, though in the same sentence as the other, the word "public" is not used, so that the use by others which would defeat the applicant, if without his consent, need not be public, but where the use of his invention is by his consent or allowance, it must be public or it will not have that effect.

The reason of this is, undoubtedly, that if others have used the machine, composition, or manufacture, without his consent, it is strong proof that it was not his discovery, and in that case he was not entitled to a patent as the first inventor ; while, if the use was with his consent or allowance, the fact that such consent or allowance was first obtained, is evidence that he was the inventor and claimed to be such. In such case he was not to lose his right to a patent unless the use which he permitted was such as showed an intention of abandonment of his invention to the public. It must, in the language of the act be *in public use* or on sale. If on sale, of course the public who buy can use it, and if used in public with his consent, it may be copied by others, and in either event there is an end of the exclusive right of use or sale by the inventor.

The word *public* is, therefore, an important member of the sentence. A private use with consent, which could lead to no copy or reproduction of the machine, (*j*) which taught no one but the party permitted the nature of the invention, (*k*) which left the public at large as ignorant of this as it was before the author's discovery, was no abandonment to the public, and gave no right to (*l*) defeat his claim for a patent. If the little steel spring inserted in a single pair of corsets, and used by only one woman, covered by her outer clothing, and in a position always withheld from public observation, is a *public* use of that piece of steel, I

104 U. S. 338-339.

(*j*) Otto substitutes for from *j* to *k*, "the nature of the invention to no one but the party to whom such consent was given."

(*l*) Otto substitutes for "and gave no right to" "and did not."

Notes and citations.

am at a loss to know the line between a private and a public use.

The opinion argues that the use was public, because with the consent of the inventor to its use no limitation was imposed in regard to its use in public. It may be well imagined that a prohibition to the party so permitted against exposing her use of the steel spring to public observation, would have been supposed to be a piece of irony. An objection quite the opposite of this suggested by the opinion is, that the invention was incapable of a public use; that is to say, that while the statute says the right to the patent can only be defeated by a use which is public, it is equally fatal to the claim, when it is permitted to be used at all, that the article can never be used in public.

I cannot, on such reasoning as this, eliminate from the statute the word *public*, and disregard its obvious importance in connection with the remainder of the act, for the purpose of defeating a patent otherwise meritorious.

104 U. S. 339.

Notes:

1. Particular patent void for prior public use:

Shaw v. Cooper, 7 Pet. 292 [4 Am. & Eng. 286.]

Worley v. Loker Tobacco Co., 104 U. S. 340 [p. 291 *post.*]

Manning v. Cape Ann Co., 108 U. S. 462.

Smith & Griggs Mnfg. Co. v. Sprague, 123 U. S. 249.

Andrews v. Hovey, 123 U. S. 267.

2. What is public use:

Pennock v. Dialogue, 2 Pet. 1. [4 Am. & Eng. 217.]

Shaw v. Cooper, 7 Pet. 292 [4 Am. & Eng. 286.]

McClurg v. Kingsland, 1 How. 202 [4 Am. & Eng. 382.]

Gayler v. Wilder, 10 How. 477 [5 Am. & Eng. 188.]

Coffin v. Ogden, 18 Wall. 120 [9 Am. & Eng. 125.]

Notes and citations.

Elizabeth v. Pavement Co., 97 U. S. 126 [10 Am. & Eng. 514.]

Bates v. Coe, 98 U. S. 31 [12 Am. & Eng. 150.]

Worley v. Loker Tobacco Co., 104 U. S. 340 [p. 291 *post.*]

Hall v. MacNeale, 107 U. S. 90.

Manning v. Cape Ann Co., 108 U. S. 462.

Foreign public use:

Shaw v. Cooper, 7 Pet. 292 [4 Am. & Eng. 286.]

O'Reilly v. Morse, 15 How. 62 [5 Am. & Eng. 483.]

Roemer v. Simon, 95 U. S. 214 [11 Am. & Eng. 348.]

One instance of public use sufficient :

McClurg v. Kingsland, 1 How. 202 [4 Am. & Eng. 382.]

Consolidated Fruit Jar Co. v. Wright, 94 U. S. 92 [11 Am. & Eng. 46.]

Worley v. Loker Tobacco Co., 104 U. S. 340 [p. 291 *post.*]

Manning v. Cape Ann Glue Co., 108 U. S. 462.

6. Public use. Lost art :

Gayler v. Wilder, 10 How. 477 [5 Am. & Eng. 188.]

Public experimental use :

Elizabeth v. Pavement Co., 97 U. S. 126 [11 Am. & Eng. 514.]

Notes and citations.

Private use :

Manning v. Cape Ann Co., 108 U. S. 462.

Experimental use :

Smith & Griggs Mnfg. Co. v. Sprague, 123 U. S. 249.

Inventor's consent and allowance of the public use or sale :

Act 1836, Secs. 6, 7, and 15 ; Act 1839, sec. 7 ; Act 1870, sec. 24 ; R. S. 4886.

Bates v. Coe, 98 U. S. 31 [12 Am. & Eng. 150.]

Parks v. Booth, 102 U. S. 96 [12 Am. & Eng. 470.]

Hall v. MacNeale, 107 U. S. 90.

Manning v. Cape Ann Co., 108 U. S. 462.

Andrews v. Hovey, 123 U. S. 267.

Andrews v. Hovey, 124 U. S. 694.

Patent in suit:

No. 56,345. Barnes, S. H. July 12, 1866. Reissue No. 3,624, August 31, 1869. Reissue No. 5,216, January 7, 1873. Corset-Spring.

OTHER SUITS ON SAME PATENT :

Barnes v. Straus, 1872. 9 Blatch. 553 ; 5 Fish. 531 ; 2 O. G. 62.

Egbert v. Lippmann, 1878. 15 Blatch. 295 ; 3 Ban. & Ard. 468 ; 14 O. G. 822.

Cited:

IN SUPREME COURT IN :

Worley v. Loker Tobacco Co., 1882. 104 U. S. 340 ; Bk. 26 L. ed. 821 [p. 291 *post.*]

Notes and citations.

Hall v. MacNeale, 1883. 107 U. S. 97 ; Bk. 27 L. ed. 367.

Manning v. Cape Ann Isinglass & Glue Co., 1883. 108 U. S. 462 ;
Bk. 27 L. ed. 793.

Smith & Griggs Mnfg. Co. v. Sprague, 1887. 123 U. S. 249 ; Bk.
31 L. ed. 141.

Andrews v. Hovey, 1887. 123 U. S. 267 ; Bk. 31 L. ed. 160.

Andrews v. Hovey, 1888. 124 U. S. 694 ; Bk. 31 L. ed. 557.

IN CIRCUIT COURTS IN:

Perkins v. Nashua Card and Glazed Paper Co., May, 1880. 10
Reporter, 7.

The Driven Well Cases, May, 1883. 5 McCrary, 181 ; 16 Fed.
Rep. 387 ; 26 O. G. 1011.

Clark Pomace Holder Co. v. Ferguson, 1883. 21 Blatch. 376 ; 17
Fed. Rep. 79 ; 24 O. G. 1090.

Davis v. Fredericks, January, 1884. 21 Blatch. 556 ; 19 Fed.
Rep. 99 ; 17 Reporter, 102.

Solomon's Case, June, 1887. 22 Ct. of Claims, 335.

Campbell v. Mayor, &c., of N. Y., July, 1888. 44 O. G. 1185.

IN TEXT BOOKS:

2 Abb. Pat. Laws, 1886, pp. 333, 334, 335, 336, 339.

Merwin on Pat. Invt., 1883, p. 640.

Walker on Pats., 1883, p. 63.

Syllabus.

CHRISTIAN WORLEY ET AL., APPELLANTS, v. LOKER
TOBACCO COMPANY ET AL. *

104 (14 Otto) U. S. 340-344. Oct. Term, 1881.

[Bk. 26, L. ed. 821; 21 O. G. 559.]

Argued January 5, 1882. Decided January 16, 1882.

Particular patent construed. Date of application. Public use for more than two years prior to date of application. Employer and employé—inventor—assignment of invention.

1. Letters patent, No. 181,512, granted to Christian Worley and Henry McCabe, August 22, 1876, for an Improvement in the Mode of finishing Plug Tobacco, construed to be for a process and *held*, in default of evidence of the date of the application, to have been applied for on same date as that of the grant of the patent and *held*, to be invalid, the evidence showing that the invention had been in open and public use for more than two years prior to the filing of the application which was not avoided by inventor's assignment of the invention to the prior user. (p. 296.).
2. In the absence of all other proof the date of the patent will be taken as the date of application and the date of assignment. (p. 297.)
3. A single instance of public use of his invention by a patentee, for more than two years before the date of his application for his patent, will be fatal to the validity of the patent when issued. (p. 299.)
4. If a person employed in the manufactory of another, while receiving wages makes experiments at the expense and in the manufactory of the employer, has his wages increased in consequence of the useful results of his experiments, makes the article invented, and permits his employer to use it, no compensation for its use being paid or demanded, and then obtains a patent for it, the patent is invalid and void. *McClurg v. Kingsland*, 1 How. 202 [4 Am. & Eng. 382.] (p. 299.)
5. The inventor cannot relieve himself of the consequences of the prior public use of his patented invention by assigning an in-

*See Explanation of Notes, page IIL

Argument of counsel.

terest in his invention or patent to the person by whom the invention was thus used. (p. 300.)

[Citations in the opinion of the court:]

McClurg v. Kingsland, 1 How. 202 [4 Am. & Eng. 382.] p. 299.

Consolidated Fruit Jar Co. v. Wright, 94 U. S. 92 [11 Am. & Eng. 46.] p. 299.

Egbert v. Lippmann, 104 U. S. 333 [p. 273 *ante.*] p. 299.

Appeal from the Circuit Court of the United States for the Eastern District of Missouri.

The case is stated by the court.

Mr. Robert H. Parkinson, for appellants:

There is no evidence which even tends to show any public use of the invention prior to the application for a patent. The evidence, on the contrary, shows clearly and without contradiction that the only use of it prior to this time was so carefully guarded that not even the workmen in the establishment knew what the process was. Not a single witness other than the patentees themselves, and their foreman, who was cautioned to secrecy, ever knew how the tobacco was treated.

The sale of the product of the process did not carry to the public any intimation as to the process by which it was finished.

The statute, in express terms, makes a public use or sale of the invention necessary to invalidate the patent.

In no case has a secret use, however extensive, been held to invalidate a patent. It has frequently been held that an experimental use, even though public, is not sufficient, and care must be observed, in reading the decisions, to distinguish between the cases which have turned on the publicity of the use, and those which have turned on its experimental character, the use being admitted to have been, so far as it went, public.

The object of the statute is to enable the public, after it has seen the invention in open use for a certain length of time, to assume with safety that it is abandoned.

Argument of counsel.

The publicity must be such as to give the public full knowledge of the invention with the consent of the inventor. It is not sufficient that this knowledge be obtained by stealth.

The question in this case is not whether tobacco, which, in some of its stages of preparation, had been put through the patented process, was publicly sold and used, but whether the process itself was in public use with the consent and allowance of the inventor. There is no evidence offered tending to show that it was publicly used or in any way exposed to the public, either with or without his consent or knowledge, prior to the two years allowed by the statute.

The case of *Goodyear v. Day*, is analogous to that here in issue, and holds distinctly that when the invention relates to the process, the sale of the product of this process, when that product does not show the process, is not within the statute.

On necessity of public use or sale of invention as distinguished from private, see—

Shaw v. Cooper, 7 Pet. 292 [4 Am. & Eng. 286;] *Ryan v. Goodwin*, 3 Sumn. 514; *Wyeth v. Stone*, 1 Story, 273; *Allen v. Blunt*, 2 Wood. & M. 121; *Kendall v. Winsor*, 21 How. 322 [7 Am. & Eng. 1.]

On point that use, even when public, if experimental, is not sufficient, see—

Wyeth v. Stone, 1 Story, 273; *Pitts v. Hall*, 2 Blatch. 229; *Am. Nicholson Pav. Co. v. City of Elizabeth*, 6 Fish. 424; *Elizabeth v. Pavement Co.*, 97 U. S. 126 [11 Am. & Eng. 514.]

The nature of the invention required extensive experiments to determine both whether the process would be permanently beneficial to the tobacco under the various exposures and changes of circumstances through which it was likely to pass, and what, if any, change in the instrumentality used would enable it to be carried out more economically and effectually.

The success of the process could only be determined by putting the product for some time upon the market and ascertaining whether the effect of the process was durable, how

Opinion of the court.

the tobacco treated by it stood the various usages to which it is liable in handling, shipping, storing, and exposure for sale,—the changes of season and atmospheric action.

The evidence shows that the inventor was all the time experimenting upon instrumentalities through which to apply the process—that finding his first wooden finishers unsatisfactory he had others made, and again others, making changes each time; that he then had some iron ones got up and tried, but found them less satisfactory than the former, and returned to wood well braced with iron.

It was within less than two years of the time when the iron finishers were tried and rejected that the application for a patent was made. It was not until after this that he was satisfied that he had provided the best instrumentalities for carrying out his invention or was prepared to describe them in his patent.

If it be conceded that a single public use of the invention would be fatal, no such use is shown.

There was no brief filed for appellees.

Mr. Justice Woods delivered the opinion of the court:

The bill of complaint (*a*) averred that on August 22, 1876, letters patent of that date (*b*) were issued to Christian Worley and Henry McCabe, the complainants, for an improvement in the mode of finishing plug tobacco, of which Worley was the inventor, and McCabe was his assignee of an undivided half, and that the defendants were infringing (*c*) said patent, and prayed (*d*) for an injunction to restrain further infringement, and for damages and an account of profits. The answer (*e*) asserted the invalidity of the patent (*f*) and denied infringement. Upon final hearing the Circuit Court

104 U. S. 340.

(*a*) Otto substitutes for from *a* to *b*, "averts that letters patent, No. 181,512, bearing date August 22, 1876,"

(*c*) Otto substitutes for from *c* to *d*, "them. It prays "

(*e*) Otto substitutes for from *e* to *f*, "asserts the invalidity of the letters patent "

Opinion of the court.

dismissed the bill, and the complainants (*g*) have appealed to this court. (*h*)

The specifications on which these letters patent were issued declare as follows:

“The common way to proceed in finishing plug tobacco is to press the bunches into plugs having the form seen in the retail stores. The plugs are next removed from the molds in which they are pressed, and packed in boxes, and the boxes placed in a room, where the tobacco is sweated and cured. The plugs are afterward taken from the boxes, and subjected to a second pressing before they are packed in the boxes for sale.

“My improved mode consists in finishing tobacco by placing the plugs in a box in alternate layers with thin metal plates, applying extreme pressure thereto, and subjecting the plugs to dry heat for several hours, while they are tightly compressed between the plates, which are in contact with the broad sides of the plugs; and finally removing the box, and leaving the contents therein until cold, the whole process being adapted to give a fine and smooth finish to the wrapper and, by putting the plug in proper condition, doing away with its tendency to bulge out at the sides, as plugs are apt to do when they have not been thus treated.”

The claim was thus set forth:

“I am aware that there is not any novelty in, first, the simple finishing of tobacco by placing it in a heated room, and, secondly, the simple pressing of tobacco between metallic plates and, therefore, I do not claim this distinct heating and pressing of tobacco broadly; but what I do claim as new and of my invention, and desire to secure by letters patent, is—

“The mode of finishing tobacco substantially as described, consisting of placing the plugs in a box in alternate layers with thin metal plates, applying extreme pressure thereto, and subjecting the plugs to dry heat of about 140° Fahren-

104 U. S. 340-341.

(*g*) Otto substitutes for from *g* to *h*, “appealed.”

Opinion of the court.

heit for several hours while they are tightly compressed between the plates, which are in contact with the broad sides of the plugs, and finally removing the box and leaving the contents therein until cold."

It will be seen that the patent disclaims the simple pressing of tobacco between plates, and the finishing of it by simply placing it in a heated room.

What appellants insist as new is this, namely: that while the plugs of tobacco are still confined in the finisher (which is the name given to the box in which they are placed before being subjected to extreme pressure,) and while still tightly compressed between the metallic plates, they are placed in a sweat room, and allowed to remain several hours, and before being removed from the finisher are taken from the sweat room and allowed to cool.

This process, it is contended, brings the oil of the tobacco to the surface of the plug, and gives it a glossy coating which improves its appearance and keeps the tobacco from molding or swelling.

The patent is, (*i*) therefore, for the process described and nothing more. None of the appliances by which it is carried on are claimed as new, and the evidence abundantly shows that they are all old devices.

The appellees insist that the patent is (*j*) void, because the improvement described therein was in public use at the factory where Worley, the patentee, (*k*) was employed for more than two years prior to his application therefor.

The law applicable to the case is section 24 of the act of July 8, 1870, (*l*) now embodied in the Revised Statutes as section 4886, which declares, "Any person who has invented or discovered any new and useful art, machine, manufacture, or composition of matter, or any new and use-

104 U. S. 341-342.

(*i*) Otto substitutes for "The patent is" "The letters patent are"

(*j*) Otto substitutes for "patent is" "letters patent are"

(*k*) Otto omits "the patentee"

(*l*) Otto inserts "c. 230"

Opinion of the court.

ful improvement thereof, not known or used by others in this country ; and not patented or described in any printed publication in this or any foreign country before his invention or discovery thereof, and not in public use or on sale for more than two years prior to his application, unless the same is proved to have been abandoned, may, upon payment of the fees required by law, and other due proceedings had, obtain a patent therefor."

Neither the bill of complaint nor the evidence shows the date of Worley's application for his patent, (*m*) nor of the assignment of an undivided half of his invention to McCabe. (*n*) The patent itself bears date August 22, 1876, and this (*o*) must, consequently, be taken as the date of the application and of the assignment. The question is, therefore, whether the improvement patented to Worley was in public use for more than two years prior to that date ; that is to say, whether a public use prior to August 22, 1874, is proven.

We think that the testimony of the appellants themselves shows that this question must be answered in the affirmative.

From their depositions the following state of facts appears :

McCabe was the proprietor of a tobacco manufactory in the city of St. Louis, and Worley was in his employment as a workman in the factory. In the summer of 1869, McCabe moved his factory from Second street to Cass avenue, and lost about two months of good working weather in so doing. The work of the factory was, consequently, carried on pretty late in the fall, and McCabe told Worley that they should have to go to work early in the spring. It was to prevent the sweating of tobacco which was manufactured in the spring of the year that Worley, in the fall of 1869, conceived the process for which he afterwards obtained his

104 U. S. 342.

(*m*) Otto omits "for his patent"

(*n*) Otto substitutes for from *n* to *o* "The date of the letters."

Opinion of the court.

patent. It was at the suggestion of McCabe that he turned his attention to the subject, and the process was contrived for McCabe's benefit. It is not pretended that Worley and McCabe were joint inventors. The invention was made by Worley alone. He at once began using his invention in McCabe's factory. He testifies that it was complete, and he became satisfied with its results, in 1871. It is true that after that date he made experiments to decide upon the best mode of constructing his finishers so as to secure the requisite strength, but the finisher constituted no part of his patented invention. In 1871 his invention was complete, and in his opinion successful, and was adhered to from that date, without change.

The process was used in the factory of McCabe under the direction of Worley until the application was filed for the patent in 1876, and according to the testimony of McCabe, Worley continued the process for McCabe's benefit, who paid him a salary larger than was usual for his knowledge as a tobacco manufacturer. During all the time from 1870 to 1876 thousands of pounds of tobacco finished by means of this process in the factory of McCabe were sold in the market every year. No injunction of secrecy was laid on McCabe by Worley, no one was excluded from the factory where his process was carried on and, at least, one manufacturer learned the process from observing it in McCabe's factory, and adopted it and used it in his own. Worley, it is true, testifies that he told several of the hands employed in the factory not to say anything about what they were doing, and McCabe says that before the patent was obtained there was "an outside understanding" that they were "to keep it away from the public eye as much as possible." The testimony of the appellants on this point is most vague and unsatisfactory, and it is evident that no means were taken by them to keep the process invented by Worley a secret, and it was not kept a secret. Worley, according to his own testimony, communicated his process not

Opinion of the court.

only to McCabe but to others, and used it openly in McCabe's factory, for a period of six years before applying for his patent.

It has been repeatedly held by this court, that a single instance of public use of his invention by a patentee, for more than two years before the date of his application for his patent, (*p*) will be fatal to the validity of the patent when issued. *McClurg v. Kingsland*, 1 How. 202 [4 Am. & Eng. 382 ;] *Consolidated Fruit Jar Co. v. Wright*, 94 U. S. 92 [11 Am. & Eng. 46 ;] and *Egbert v. Lippmann*, 104 U. S. 333 [p. 273 *ante*,] decided at the present term.

We think the testimony of the appellants themselves, shows such a public use of the process covered by Worley's patent, as to render it invalid. This evidence brings the case clearly within the terms of the decision of *McClurg v. Kingsland*, *ubi supra*, where it was declared that if a person employed in the manufactory of another, while receiving wages, makes experiments at the expense and in the manufactory of the employer, has his wages increased in consequence of the useful result of the experiments, makes the article invented, and permits his employer to use it, no compensation for its use being paid or demanded, and then obtains a patent for it, the patent is invalid and void.

Suppose Worley had not assigned an interest in his invention to McCabe and, after obtaining his patent, had brought suit against the latter for infringement; it is perfectly clear that McCabe could have defended the suit successfully on the ground of his own public use of the invention for two years before the date of the patent. If such defence could be made by McCabe, it could be made by any one else, for the facts relied on would render the patent void.

The fact that McCabe, just before the patent was applied for, became the assignee of an interest in it, does not make this defence any the less effectual; for the assignee of a

104 U. S. 343-344.

(*p*) Otto omits "for his patent,"

Notes and citations.

patent-right takes its subject to the legal consequences of the previous acts of the patentee. *McClurg v Kingsland*, 1 How. 202 [4 Am. & Eng. 382,] *ubi supra*.

The inventor cannot relieve himself of the consequences of the prior public use of his patented invention, by assigning an interest in his invention or patent to the person by whom the invention was thus used.

We think the evidence of the appellants themselves establishes clearly the defence under consideration. (q) *The decree of the Circuit Court must, therefore, be affirmed.* (r)

104 U. S. 344.

(q) Otto substitutes for from q to r, "Decree affirmed."

Notes:

1. Prior public use:

See *Egbert v. Lippmann*, 104 U. S. 333, notes [p. 273 *ante*.]

2. Date of application:

Bates v. Coe, 98 U. S. 31 [12 Am. & Eng. 150.]

Patent in suit:

No. 181,512. *Worley & McCabe*. August 27, 1876. Finishing Plug Tobacco.

Cited:

IN SUPREME COURT IN:

Manning v. Cape Ann Isinglass and Glue Co., 1883. 108 U. S. 462; Bk. 27 L. ed. 793.

Notes and citations.

IN CIRCUIT COURTS IN:

Solomon's Case, June, 1887. 22 Ct. of Claims, 335.

IN TEXT-BOOKS:

2 Abb. Pat. Laws, 1886, pp. 38, 216, 333, 334.

Walker on Pats., 1883, pp. 62, 84.

Syllabus.

EDWARD MILLER AND COMPANY, APPELLANTS,
v. BRIDGEPORT BRASS COMPANY.*

104 (14 Otto) U. S. 350-356. Oct. Term, 1881.

[Bk. 26, L. ed. 783 ; 21 O. G. 201.]

Affirming *Ibid*, 14 Blatch. 282.

Submitted March 1, 1881. Decided January 9, 1882.

Particular patent construed. Reissue. Mistake apparent on face of patent. Unreasonable delay in reissuing. Abandonment. Expanded reissue claims. Failure to claim an abandonment.

1. Claim 2 of reissued letters patent, No. 6,844, of J. E. Ambrose, January 11, 1876, Lamp, for a single dome with a chimney, *held*, to be for a different invention from that described and claimed in the original patent, No. 30,381, October 16, 1860, for a double dome without a chimney, the peculiarity being the use of the double dome as dispensing with a chimney, and is void; *held*, that the mistake, if it was one, was apparent upon the first inspection of the patent and that the right to correct it was abandoned and lost by unreasonable delay. (p. 322.)
2. Where on reissue, the only mistake suggested was that the claim of the original patent was not so broad as it might have been, *held*, that it was manifest on the face of the patent when compared with the original, that the suggestion of inadvertence and mistake in the specification was a mere pretense ; or if not a pretense, the mistake was apparent upon the first inspection of the patent ; and if any correction was desired it should have been applied for immediately, and the right to have it corrected was abandoned and lost by unreasonable delay. (p. 323.)
3. Expansion of reissue claims condemned. (p. 324.)
4. If a patentee who has no corrections to suggest in his specification, except to make his claim broader and more comprehensive, uses due diligence in returning to the Patent Office, and shows how such mistake occurred, his application may be entertained. (p. 324.)
5. The claim of a specific device or combination and an omission to

* See Explanation of Notes, page III.

Syllabus.

claim other devices and combinations apparent upon the face of the patent are in law a dedication to the public of that which is not claimed, and this legal effect of the patent cannot be revoked unless the patentee surrenders it and proves that the specification was so framed by real inadvertence, accident, or mistake, without any fraudulent or deceptive intention, and this should be done with all due diligence and speed. (p. 324.)

6. *Semble*, that a public disclaimer in a patent consisting in the omission to claim devices and combinations apparent upon the face of the patent, which is not corrected by reissue within two years, should be construed equally favorable to the public, as the two years' public enjoyment of the invention with the allowance and consent of the inventor which is a bar to the application. (p. 324.)
7. Act 1832, (Sec. 3;) Act 1836, (Sec. 13;) Act 1870, (Sec. 53;) statutes relating to reissues reviewed and *held*, that it was not the special purpose of the legislation upon reissues to authorize the surrender of patents for the purpose of reissuing them with broader and more comprehensive claims, although under the general terms of the law such a reissue may be made when it clearly appears that an actual mistake has inadvertently been made, not from a mere error of judgment, but a real *bona fide* mistake, such as a court of chancery in cases within its ordinary jurisdiction would correct. (p. 325.)
8. Where the matter sought to be corrected by reissue for the purpose of enlarging the scope of the claim is apparent on the face of the instrument upon a mere comparison of the original patent with the reissue, it is competent for the courts to decide whether the delay in securing the reissue was unreasonable and whether the reissue was therefore contrary to law and void. (p. 328.)

Appeal from the Circuit Court of the United States for the District of Connecticut.

The case is sufficiently stated by the court.

The specifications and drawings of Ambrose's original and reissued letters patent are as follows:

Statement of the case.

JOSHUA E. AMBROSE, OF BATAVIA, ILL.

Letters Patent, No. 30,381, dated October 16, 1860.

The schedule referred to in these Letters Patent, and making part of the same.

To all whom it may concern :

Be it known that I, J. E. Ambrose, of Batavia, in the county of Kane, and State of Illinois, have invented a new and improved Lamp, and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, forming part of this specification, in which,—

Figure 1 is a vertical central section of my invention taken in the line, *x x*, Fig. 2;

Fig. 2, a plan or top view of ditto;

Fig. 3, a plan or top view of ditto, with the heater detached;

Fig. 4, a detached plan or top view of the wick-adjusting mechanism.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to obtain a lamp, which will burn without a chimney, and without danger of explosion, those hydro-carbons which are volatile and contain an excess of carbon.

The invention consists in the employment or use of a perforated cap vapor tube, wick-tube, heaters, and deflecting plate, arranged as hereinafter described, to effect the desired end.

The invention also consists in a wick-adjusting mechanism so arranged as to admit, when operated, of the wick being elevated with certainty, and when not used admitting of the wick being in a loose free state within the tube without being subjected to any pressure which would retard the free ascent of the oil in the wick.

Statement of the case.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A, Fig. 1, represents the upper part of the body of a lamp, provided with a socket, B, at its upper end to receive the cap, C, the lower end of which is provided with a screw flanch, *a*, which screws into the socket, B. The cap, C, is of cylindrical form, and may be constructed of perforated sheet metal, the lower end having a plate, *b*, fitted in it from which the flanch, *a*, projects, and the upper end having a perforated plate, *c*, fitted in it.

Within the cap or perforated cylinder, C, there is secured centrally a wick-tube, D. This wick-tube is of the usual flat form, and in it the wick, E, is fitted, the wick extending down into the body, A, of the lamp. Adjoining the wick-tube, D, there is a tube, F, the lower end of which communicates with the interior of the body of the lamp, the upper end of said tube being covered by the perforated plate, *c*.

The wick-tube, D, at one side, the side opposite to that where the tube, F, is attached, has an enlarged space or chamber, *d*, in which the inner end of a horizontal shaft, *e*, passes. This shaft, *e*, has a horizontal rod, *f*, fitted on it containing spurs, *g*, the rod and spurs being within the chamber, *d*. On the shaft, *e*, there is placed loosely a metal plate, *h*, said plate being at the outer side of the chamber, *d*, the latter having its side slotted to admit the shaft, *e*, and rod, *f*. On the shaft, *e*, there is placed a spiral spring, *i*, the inner end of which bears against the plate, *h*, the outer end bearing against a plate or step, *j*, which is attached permanently to shaft, *e*. The spring, *i*, it will be seen, has a tendency to keep the shaft, *e*, shoved outward to the extent of its movement, and keep the rod, *f*, and spurs, *g*, within the chamber, *d*, and free from the wick, E. On the shaft, *e*, and at the outer side of the cap, C, there is secured a plate, *k*. The shaft, *e*, passes through a slot, *l*, in the cap, C.

In order to raise or lower the wick, E, the shaft, *e*, is pressed inward, and the spurs, *g*, will penetrate the wick, and by raising or lowering the shaft, *e*, the wick will be raised

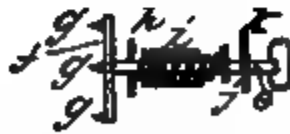
J. E. AMBROSE.

Lamp.

No. 30,381.

Patented Oct. 16, 1860.

2



Witnesses:

Edw. Ambrose
Wm. Ambrose

Inventor:

John E. Ambrose

Statement of the case.

or lowered accordingly. The plate, *h*, covers the slot in the side of the chamber, *d*, and prevents the escape of gas or vapor from the wick-tube and chamber, *d*, the plate, *h*, retains the rod, *e*, in a horizontal position as it is raised and lowered.

On the upper end of the cap, *C*, there is placed a copper dome-shaped heater, *G*, which is secured in proper position by a thumb-screw, *m*. This heater is slotted at its upper end as shown at *n*, and at the center of the slot there is fitted a longitudinal bar, *o*, the latter dividing the slot, *n*, into two equal longitudinal parts.

The wick-tube, *E*, extends some distance above the perforated plate, *c*, and on its upper end a collar, *p*, is fitted, said collar having plates, *q*, projecting from it, slightly inclined from a horizontal plane. Between the inner ends of the plates, *q*, and the collar, *p*, there are openings, *r*.

On the outer side of the heater, *G*, there are vertical ribs *s*, at the lower ends of which there are projections, *t*. These projections, *t*, serve as bearings for a heater, *H*, which is similar to *G* in form. The ribs and projections, *t*, admit of a space, *u*, being between the two heaters, and the upper end of the heater, *H*, is slotted, as shown at *v*, and has a plate, *w*, extending upward from each end of it and inclined at an angle of about 45°.

The tube, *F*, admits of all vapor generated in the body, *A*, of the lamp, escaping up into the heater, *G*, and to the flame, the perforated plate, *c*, preventing the ignition of the vapor below the orifice of the tube.

The plates, *q*, of the collar, *p*, and the openings, *r*, cause a draught to ascend directly upward to the flame, and air is also deflected directly against the inner sides of the heater, *G*, and becomes intensely heated so as to supply the flame with warm oxygen. The bar, *o*, in the slot, *n*, of heater, *G*, serves to divide the flame, and prevents it from ascending up through the slot, *n*, before the carbon is consumed. Between the two heaters, *G*, *H*, oxygen passes and becomes highly

Statement of the case.

rarefied and unites with the carbon in the flame, insuring perfect combustion.

The plates, *w*, at the ends of the slot, *v*, of heater, H, serve to spread the flame, and diminish its height, thereby keeping the flame at the point where the heat is most intense. The flame at the slot, *n*, in heater, G, is merely a gas-generating flame, the illuminating flame, having its base at the slot, *v*, of heater, H.

By this arrangement the flame is supplied with sufficient oxygen without a chimney to support proper combustion and produce a brilliant illuminating flame, and the vapor which passes up through tube, F, is consumed without danger of being ignited below the orifice of said tube.

I am aware that dome-shaped heaters have been previously used, and also that perforated caps have been used in connection with said heaters, and I do not claim said parts when separately considered; but I do claim as new and desire to secure by Letters Patent:

1st. The arrangement of the heaters, G, H, with a space between them communicating directly with the external air, in connection with the collar, *p*, and plates, *q*, *q*, fitted on the top of the wick-tube, E, and the perforated cap, C, substantially as and for the purpose set forth.

2d. In combination with the parts aforesaid, the vapor-tube, F, placed within the cap, C, and adjoining or contiguous to the wick-tube, as and for the purpose specified.

3d. The shaft, *e*, provided with the rod, *f*, and spurs, *g*, which are within the chamber, *d*, of the wick-tube in connection with the plates, *h*, *j*, *k*, and spring, *i*, on said shaft, all being arranged to operate as and for the purpose set forth.

JOSHUA E. AMBROSE.

Witnesses:

L. W. BENDRE,

M. M. LIVINGSTON.

Statement of the case.

JOSHUA E. AMBROSE, OF PLATTSVILLE, COLORADO
TER., ASSIGNOR, BY MESNE ASSIGNMENTS, TO
EDWARD MILLER & CO., OF MERIDEN, CONN.

IMPROVEMENT IN LAMPS.

Specification forming part of Letters Patent, No. 30,381, dated October 16, 1860; Reissue No 5,412, dated May 20, 1873; Reissue No. 6,844, dated January 11, 1876; application filed December 9, 1875.

To all whom it may concern :

Be it known that I, Joshua E. Ambrose, of Plattsville, in the county of Weld, and Territory of Colorado, have invented a new Improvement in Lamps; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, vertical central sections ; Fig. 2, top view ; Fig. 3, a top view with the heater detached ; Fig. 4, detached plan or top view of the wick-adjuster.

This invention relates to an improvement in that class of burners designed for burning hydrocarbons. In this class of burners the wick-adjuster must necessarily penetrate the wick-tube in order to come in contact with the wick. In the use of these burners it is found that the gas which is unavoidably generated within the lamp will escape through the tube around the wick-adjuster and pass off to mingle with the surrounding atmosphere to the discomfort of persons near, if not detrimental to their health, and as this gas is highly inflammable it frequently ignites from the flame of the lamp, and often causes explosion.

The object of this invention is to combine with the wick tube and adjuster such a means of escape for the gas that it may pass so freely directly to the flame as to be there consumed, and thus prevent its escape around the adjuster ;

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also, the construction of a burner which may be used without a chimney.

The invention consists, first, in combining with the wick tube and adjuster an auxiliary passage leading directly from the lamp up to within such proximity to the flame that the gas from the lamp, flowing freely through this auxiliary passage, will pass to and be consumed by the flame; second, in combining in a lamp-burner a deflector, a perforated air-distributor, with the deflector forming the combustion-chamber, a wick-tube extending from the fount to the combustion-chamber, an adjusting device, to regulate the elevation of the wick, and a tube to conduct the gas from the fount to the chamber above the air-distributor; third, in the employment of a perforated cap, wick-tube, heaters, and deflecting-plate, combined and arranged as hereinafter described; fourth, in a wick-adjusting mechanism, arranged so as to admit of the wick being elevated with certainty, and when not in use allow the wick to be loose and free within the tube—that is, without any pressure from the adjuster—to allow the free flow of the oil.

A represents the upper or neck portion of the body of a lamp, provided at its upper end with the usual socket, B, to receive the cap, C, the lower end of the cap being provided with a threaded flange, *a*, to fit the corresponding thread in the socket. The cap, C, is, by preference, of cylindrical form, and constructed from perforated sheet metal, the lower end having a plate, *b*, fitted into it, the said plate being a part of, or attached to, the flange, *a*. *c* is a perforated air-distributor, which, with the deflector, forms the combustion-chamber, into which the wick-tube, D, extends. Within the tube the wick, E, is arranged, and the tube is fitted with an adjuster, (here represented as an improved adjuster,) to be hereinafter described. An auxiliary tube or passage, F, is formed, the lower end of which communicates with the interior of the body of the lamp, and the upper end opening near the upper end of the wick-tube, so that the gas which is generated within the lamp, instead of

J. E. AMBROSE.

LAMP.

No. 6,844.

Reissued Jan. 11, 1876.

Fig 1

Fig 2



Fig 3



Fig 4



Witnesses

J. H. Thompson
Wm. C. Broughton

Joshua E. Ambrose

By Atty *Inventor*

John P. Earle

Statement of the case.

passing out through the opening in the tube for the wick-adjuster, as it otherwise would, will pass up through this tube or passage in such proximity to the flame that it is consumed. The termination of this tube is here represented as at the perforated plate, *c*, the perforations of the plate being sufficient for the free passage of gas to the flame. On the upper end of the cap, *C*, there is placed a copper dome-shaped heater, *G*, which is secured in proper position by a thumb-screw, *m*. This heater is slotted at its upper end, as shown at *n*, and at the center of the slot there is fitted a longitudinal bar, *o*, the latter dividing the slot, *n*, into two equal longitudinal parts. The wick-tube, *D*, extends some distance above the perforated plate, *c*, and on its upper end a collar, *p*, is fitted, the said collar having plates, *q*, projecting from it, slightly inclined from a horizontal plane. Between the outer edges of the plates, *q*, and the collar, *p*, there are openings, *r*. On the outer side of the heater, *G*, there are vertical ribs, *s*, at the lower ends of which there are projections, *t*. These projections, *t*, serve as bearings for a heater, *H*, which is similar to *G* in form. The ribs and projections, *t*, admit of a space, *u*, being between the two heaters, and the upper end of the heater, *H*, is slotted, as shown at *v*, Fig. 2, and has plates, *w*, extending upward from each end of it, and inclined toward each other at an angle of about forty-five degrees. The plates, *q*, of the collar, *p*, and the openings, *r*, cause a draft to ascend directly upward to the flame, and air is also deflected directly against the inner sides of the heater, *G*, and becomes intensely heated, so as to supply the flame with warm oxygen. The bar, *o*, in the slot, *n*, of the heater, *G*, serves to divide the flame, and prevents it from ascending up through the slot, *n*, before the carbon is consumed. Between the two heaters, *G*, *H*, oxygen passes, and becomes highly rarefied, and unites with the carbon in the flame, insuring perfect combustion.

The plates, *w*, at the ends of the slot, *v*, of the heater, *H*, serve to spread the flame and diminish its height, thereby

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keeping the flame at the point where the heat is most intense. The flame at the slot, *n*, in the heater, G, is merely a gas-generating flame, the illuminating flame having its base at the slot, *v*, of the heater, H. The wick-tube, D, at one side (the side opposite that to which the tube, F, is attached) has an enlarged space or a chamber, *d*, in which the inner end of a horizontal shaft, *e*, passes. This shaft, *e*, has a horizontal rod, *f*, fitted on it, containing spurs, *g*, the rod and spurs being within the chamber, *d*. On the shaft, *e*, there is placed loosely a metal plate, *h*, the said plate being at the outer side of the chamber, *d*, the latter having its side slotted to admit the shaft, *e*, and rod, *f*. On the shaft, *e*, there is placed a spiral spring, *i*, the inner end of which bears against the plate, *h*, the outer end bearing against a plate or step, *j*, which is attached permanently to the shaft, *e*. The spring, *i*, it will be seen, has a tendency to keep the shaft, *e*, shoved outward to the extent of this movement, and keep the rod, *f*, and spurs, *g*, within the chamber, *d*, and free from the wick, E. On the shaft, *e*, and at the outer side of the cap, C, there is secured a plate, *k*. The shaft, *e*, passes through a slot, *l*, in the cap, C.

In order to raise or lower the wick, E, the shaft, *e*, is pressed inward, and the spurs, *g*, will penetrate the wick, and by raising or lowering the shaft, *e*, the wick will be raised or lowered accordingly. The plate, *h*, covers the slot in the side of the chamber, *d*, and prevents the escape of gas or vapor from the wick-tube and chamber, *d*. The plate, *k*, retains the rod, *e*, in a horizontal position as it is raised and lowered.

I claim as my invention—

1. In combination with the wick-tube and a mechanism for adjusting the wick, an auxiliary tube or passage leading from the lamp upward, to conduct the gas from within the lamp to the flame without the mixture of air with the gas below the upper orifice of the tube, substantially as set forth.

2. The combination, in a lamp-burner, of the following

Argument of counsel.

elements: first, a deflector; second, a perforated air-distributor, which, with the deflector, forms the combustion-chamber; third, a wick-tube extending from the fount to the combustion-chamber; fourth, a tube or passage to conduct the gas from the fount to said combustion-chamber, substantially as described.

3. The combination, in a lamp-burner, of the following elements; first, a deflector; second, a perforated air-distributor, which, with the deflector, forms the combustion-chamber; third, a wick-tube extending from the fount to the combustion-chamber; fourth, a tube or passage to conduct the gas from the fount to said combustion-chamber; fifth, an adjusting device to regulate the elevation of the wick, substantially as described.

4. The combination of the heaters, G, H, with a space between them, communicating directly with the external air, in connection with the collar, *p*, and plates, *q*, *q*, fitted on the top of the wick-tube, E, and the perforated cap, C, substantially as and for the purpose set forth.

5. The shaft, *e*, provided with the rod, *f*, and spurs, *g*, which are within the chamber, *d*, of the wick-tube, in connection with the plates, *h*, *j*, *k*, and spring, *i*, on the said shaft, all being arranged to operate as and for the purpose set forth.

JOSHUA E. AMBROSE.

Witnesses:

N. B. DEARBORN,
W. H. AMBROSE.

Mr. John S. Beach, for appellants:

We submit that the Circuit Court erred in dismissing the bill upon the theory that the reissued patent is invalid because it is for an invention different from that described and claimed in the original patent.

It is not to be disguised that the quotation from *Gill v. Wells*, as given by the learned judge, isolated from its con-

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text, would seem to sustain the broad proposition that if the claim of an original patent is for a combination of instrumentalities or ingredients, and if it be surrendered and reissued, claiming one or more sub-combinations of these instrumentalities or ingredients, the reissue is *ipso facto* void, irrespective of the question.

Whether the omission of the patentee to claim the sub-combinations in his original patent, resulted from accident, inadvertence, or mistake, and irrespective also of the question whether each feature of such sub-combination is, or is not, to be found clearly described in the specifications and drawings of the original patent.

But we submit that uniformly—with the exception of the case at bar—courts have held that the decision of the Supreme Court in *Gill v. Wells*, 22 Wall. 1 [9 Am. & Eng. 471,] construed in relation to its context and its application to the facts of that case, does not sustain the proposition that where a patent is for a combination of old ingredients, the invention is so restricted to that combination, as that if one ingredient is relinquished, the combination being gone, the invention is gone, and a reissue granted with a claim to the retained ingredients, is for a different invention and invalid.

Judge NIXON, in *Kerosene Lamp Heater Co. v. Littell*, 13 O. G. 1009, says: “I first had the impression that the reissue in this case came within the principle of the reissue in *Gill v. Wells*, 22 Wall. 1 [9 Am. & Eng. 471,] which the Supreme Court held invalid because one of the elements of the original combination was dropped in the reissue, and a full description of several other devices in lieu thereof inserted, without any allegation that they were equivalents of the one stricken out. Such a change was held to be the introduction of new matter constituting a different invention, because it did not appear that the new devices were known at the date of the original invention as proper substitutes for the ingredients left out.

But it will be observed that the court did not say in that

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case, nor in view of their subsequent decision in the Corn-Planter Case, 23 Wall. 181 [10 Am. & Eng. 1,] do I think it ought to be said, that when the patent is originally taken out for a single combination, a reissue may not be had in which separate claims may not be made for sub-combinations of a part of the elements joined in one in the original invention." See also *Turrell v. Spaeth*, 14 O. G. 377; *Johnson v. R. R. Co.*, 16 Blatch. 198; *Christman v. Rumsey*, 17 O. G. 905.

That the original patent of Ambrose was inoperative and invalid by reason of a defective or insufficient specification or claim, and that the error arose by inadvertence, accident, or mistake, and without any fraudulent or deceptive intention on the part of the patentee has been conclusively established by the action of the Commissioner, to whom alone the decision of these questions belonged. *Herring v. Nelson*, 14 Blatch. 300; *Seymour v. Osborne*, 11 Wall. 543 [8 Am. & Eng. 290.]

It only remains then to compare the original with the reissue, and upon such comparison to discover whether the second claim of the reissue includes any ingredient not described and shown in the original specification and drawings, and if it does, whether such ingredient is or is not an equivalent for the omitted ingredient described and shown in the original specification or drawings, well known as such equivalent at the time the original patent issued.

Upon this point we might rest content with the finding of the court below, that, "The descriptive portion of the reissued specification does not substantially differ from the language of the descriptive portion of the original specification."

It is conceded that the copper dome-shaped heater, G, is neither more nor less than a "deflector." But the original patent added to this deflector or heater a description of another heater so attached to and connected with, the outer periphery of the dome-shaped deflector, as to allow a space between the two, through which rarefied air could pass up

Argument of counsel.

to the flame, and this outer heater was described and intended as a substitute for a chimney.

He was mistaken in his expectation that this outer heater would perform the functions of a chimney and answer as a substitute therefor.

If the discovery of this mistake destroyed the utility of the lamp and the removal of the outer heater extinguished all title to public favor as a new and useful article, or if the outer heater being removed, there was no known equivalent that would perform the functions expected of it, and a new invention must be sought to cure the evil, then the mistake was a fatal one and beyond remedy.

On the other hand, if upon the discovery of this mistake and the removal of the outer heater, the lamp, as described in the original patent, still retained valuable features of which the patentee was the first and original inventor, and if these features could be utilized without any further invention by simply restoring the old chimney to the place and function which the outer heater had usurped, then we submit the mistake was not fatal and the patent law gave an easy and ample remedy for its correction by surrender and reissue.

The first legislative provision for the surrender of patents and for their reissue is found in the 13th section of the patent act of 1836. But, "so strongly was this remedy for the patentee recommended by a sense of justice and of policy that this court in the case of *Grant v. Raymond*, 6 Pet. 218 [4 Am. & Eng. 245] sustained a reissued and corrected patent before any legislative provision was made on the subject. * * * How much stronger is a case under the statute which secures the rights of the patentee by a surrender, and declares the effect of the reissued and corrected patent. *Battin v. Taggart*, 17 How. 83 [6 Am. & Eng. 243.]

Mr. C. R. Ingersoll, for appellee:

The law on the subject of reissues has been so thoroughly

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considered by this court in recent cases, especially in *Gill v. Wells*, 22 Wall. 1 [9 Am. & Eng. 471;] *Collar Co v. Van Deusen*, 23 Wall. 530 [10 Am. & Eng. 156;] *Russell v. Dodge*, 93 U. S. 460 [10 Am. & Eng. 495;] *Powder Co. v. Powder Works*, 98 U. S. 126 [12 Am. & Eng. 201;] *Swain Turbine Co. v. Ladd*, 102 U. S. 408 [p. 1 *ante*;] *Ball v. Langles*, 102 U. S. 128 [12 Am. & Eng. 508,] that a discussion of it here cannot be necessary.

In the present case we shall undertake to show that the alleged invention which the defendant is claimed to have infringed, did not "form the subject" of the original patent, was not "attempted to be secured" by that patent, and is, in fact, for a different combination of ingredients from that exhibited in the original patent—and different not because it is a *sub*-combination of the ingredients originally claimed in combination, but because the ingredients of the new combination are not the same as those of which the old combination was composed. And, whether a sub-combination or not, no trace of it is to be found in the original specification, nor can it be constructed out of the original drawings without their essential alteration.

There is no question here of sub-combinations. The elements of the new combination are in form and purpose different from the elements of the old combination. They are not equivalents but substitutions, producing different results. In the most indulgent view that can be taken of them they are but parts of the "integral structure" claimed in the original patent, but not serving the same purpose or accomplishing the same result that they did when in the integral structure.

And in closing this review of this reissued patent the language of this court in *Carlton v. Bokee*, 17 Wall. 471 [9 Am. & Eng. 91,] forcibly applies: "We think it proper to reiterate our disapprobation of these ingenious attempts to expand a simple invention of a distinct device into an all-embracing claim, calculated by its wide generalizations and ambiguous language to discourage further invention in

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the same department of industry and to cover antecedent inventions. Without deciding that a repetition of substantially the same claim in different words will vitiate a patent, we hold that where a specification by ambiguity and a needless multiplication of nebulous claims is calculated to deceive and mislead the public, the patent is void."

The reissued specification describes certain combinations of which "a deflector" is a part. The term does not appear in the original specification. What does it mean? Does it mean, as the appellants in their brief assume, the heater, G? Then it must be admitted there is a description here of the thing claimed which cannot be found in the original patent. Or does it mean the *two* heaters as they are described in the original patent? Then the case is ended, for it must be admitted that the defendants have not used the thing claimed.

Mr. Justice BRADLEY delivered the opinion of the court:

This is a suit brought (a) to restrain the infringement of a patent, and for an account of profits, etc. The patent was for an alleged improvement in lamps, and was originally granted to Joshua E. Ambrose, October 16th, 1860, for fourteen years, and was extended for seven years longer. It was twice surrendered and reissued, once in May, 1873, and again in January, 1876. The court below dismissed the bill on the ground that the second reissue (b) on which the suit was brought, was not for the same invention which was described and claimed in the original patent. We agree with the Circuit Court in the conclusion to which it came. The original patent described a combination of devices, amongst other things, two domes or reflectors, one above the other, elevated above a perforated cap through which a wick tube and a vapor tube ascended. It was claimed that this com-

104 U. S. 350.

(a) Otto inserts "by Edward Miller & Co. against the Bridgeport Brass Company "

(b) Otto inserts "No. 6,844 "

Opinion of the court.

bination of devices, especially including the two domes, which admitted the external air between them for producing a more perfect combustion, would make a lamp which, without a chimney, and without danger of explosion, would burn those hydro-carbons which are volatile and contain an excess of carbon. The invention proved a failure, but it was found that the use of one of the domes, (and the other parts,) with the restoration of the chimney, would be a real improvement, and both plaintiff and defendant made such lamps in large quantities. Fifteen years after the original patent was granted, the patentee (or rather his assignee) discovers that the improved lamp was really a part of his original invention, and that, by *inadvertence and mistake*, he had omitted to claim it. We think, however, that the court below was clearly right in holding that the invention specified in the second claim of the reissued patent (which is the one in question here) is not the same invention which was described and claimed in the original patent. The latter was for a double dome without a chimney, the peculiarity of the supposed invention being, the use of the double dome as a means of dispensing with the chimney. The reissue is for a single dome with a chimney. It is not only obviously a different thing, but it is the very thing which the patentee professed to avoid and dispense with.

But there is another grave objection to the validity of the reissued patent in this case. It is manifest on the face of the patent when compared with the original, that the suggestion of inadvertence and mistake in the specification was a mere pretense; or if not a pretense, the mistake was so obvious as to be instantly discernible on opening the letters patent, and the right to have it corrected was abandoned and lost by unreasonable delay. The only mistake suggested is, that the claim was not as broad as it might have been. This mistake, if it was a mistake, was apparent upon the first inspection of the patent, and if any correction was desired, it should have been applied for immediately.

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These afterthoughts, developed by the subsequent course of improvement, and intended, by an expansion of claims, to sweep into one net all the appliances necessary to monopolize a profitable manufacture, are obnoxious to grave animadversion. The pretense in this case, that there was an inadvertence and oversight which had escaped the notice of the patentee for fifteen years, is too bald for human credence. He simply appealed from the judgment of the office in 1860 to its judgment in 1876; from the Commissioner and examiners of that date, to the Commissioner and examiners of this; and upon a matter that was obvious on the first inspection of the patent. If a patentee who has no corrections to suggest in his specification except to make his claim broader and more comprehensive, uses due diligence in returning to the Patent Office, and says "I omitted this," or "my solicitor did not understand that," his application may be entertained and, on a proper showing, correction may be made. But it must be remembered that the claim of a specific device or combination, and an omission to claim other devices or combinations apparent on the face of the patent, are in law a dedication to the public of that which is not claimed. It is a declaration that that which is not claimed is either not the patentee's invention, or if his, he dedicates it to the public. This legal effect of the patent cannot be revoked unless the patentee surrenders it and proves that the specification was framed by real inadvertence, accident, or mistake, without any fraudulent or deceptive intention on his part; and this should be done with all due diligence and speed. Any unnecessary laches or delay in a matter thus apparent on the record, affects the right to alter or reissue the patent for such cause. If two years public enjoyment of an invention with the consent and allowance of the inventor, is evidence of abandonment, and a bar to an application for a patent, a public disclaimer in the patent itself should be construed equally favorable to the public. Nothing but a clear mistake or inadvertence

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and a speedy application for its correction, is admissible when it is sought merely to enlarge the claim.

The power given by the law to issue a new patent upon the surrender of the original, for the correction of errors and mistakes, has been greatly misunderstood and abused. It was first contained in the act of July 3d, 1832, and the law was adopted in view of suggestions made in several judgments of this court. But it was carefully confined to cases where the patent was *invalid* or *inoperative* by reason of a failure to comply with any of the terms and conditions prescribed by the law for giving a clear and exact description of the invention, and where such failure was due to inadvertence, accident, or mistake, without any fraudulent or deceptive intention. This being shown, a new patent, with a correct specification, was authorized to be issued for the same invention. The Act of 1836, enlarged the power to grant reissues by adding an additional ground for reissue, namely, that the patentee had inadvertently claimed in his specification, as his own invention, more than he had a right to claim as new. And, with that addition, the law has continued substantially the same to the present time. The 53d section of the Act of 1870, which was the law on this subject when the reissue in the present case was granted, was in the following words: "Whenever any patent is inoperative or invalid by reason of a defective or insufficient specification, or by reason of the patentee claiming as his own invention or discovery more than he had a right to claim as new, if the error has arisen by inadvertence, accident, or mistake, and without any fraudulent or deceptive intention, the commissioner shall, on the surrender of such patent, and the payment of the duty required by law, cause a new patent for the same invention, and in accordance with the corrected specification, to be issued to the patentee." It will be observed that whilst the law authorizes a reissue when the patentee has claimed too much, so as to enable him to contract his claim, it does not, in terms, authorize a reissue to enable him

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to expand his claim. The great object of the law of reissues seems to have been to enable a patentee to make the description of his invention more clear, plain, and specific, so as to comply with the requirements of the law in that behalf, which were very comprehensive and exacting. The Act of 1793, section 3, required an applicant for a patent "To deliver a written description of his invention, and of the manner of using, or process of compounding the same, in such full, clear, and exact terms as to distinguish the same from all other things before known, and to enable any person skilled in the art or science of which it is a branch, or with which it is most nearly connected, to make, compound, and use the same. And in the case of any machine, he shall fully explain the principle, and the several modes in which he has contemplated the application of that principle or character, by which it may be distinguished from other inventions; and he shall accompany the whole with drawings and written references, where the nature of the case admits of drawings." This careful and elaborate requirement was substantially repeated in the Patent Act of July 4th, 1836, sec. 6, with this addition: "And shall particularly specify and point out the part, improvement, or combination which he *claims* as his own invention or discovery." Although it had been customary to append a claim to most specifications, this was the first statutory requirement on the subject. It was introduced into the law several years subsequent to the creation of reissues; and it was in the 13th section of this Act of 1836, that provision was made for a reissue to correct a claim which was too broad in the original. Now, in view of the fact, that a reissue was authorized for the correction of mistakes in the specification before a formal claim was required to be made; and of the further fact that when such formal claim was required, express power was given to grant a reissue for the purpose of making a claim more narrow than it was in the original, without any mention of a reissue for the purpose of making a claim broader than it was in the

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original; it is natural to conclude that the reissue of a patent for the latter purpose was not in the mind of Congress when it passed the laws in question. It was probably supposed that the patentee would never err in claiming too little. Those who have any experience in business at the Patent Office know the fact, that the constant struggle between the office and applicants for patents has reference to the claim. The patentee seeks the broadest claim he can get. The office, in behalf of the public, is obliged to resist this constant pressure. At all events, we think it clear that it was not the special purpose of the legislation on this subject to authorize the surrender of patents for the purpose of reissuing them with broader and more comprehensive claims, although, under the general terms of the law, such a reissue may be made where it clearly appears that an actual mistake has inadvertently been made. But, by a curious misapplication of the law, it has come to be principally resorted to for the purpose of enlarging and expanding patent claims. And the evils which have grown from the practice have assumed large proportions. Patents have been so expanded and idealized, years after their first issue, that hundreds and thousands of mechanics and manufacturers, who had just reason to suppose that the field of action was open, have been obliged to discontinue their employments, or to pay an enormous tax for continuing them.

Now whilst, as before stated, we do not deny that a claim may be enlarged in a reissued patent, we are of opinion that this can only be done when an actual mistake has occurred;—not from a mere error of judgment (for that may be rectified by appeal,) but a real, bona fide mistake, inadvertently committed; such as a court of chancery, in cases within its ordinary jurisdiction, would correct. Reissues for the enlargement of claims should be the exception and not the rule. And when, if a claim is too narrow, that is, if it does not contain all that the patentee is entitled to, the defect is apparent on the face of the patent, and can be discovered as

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soon as that document is taken out of its envelope and opened, there can be no valid excuse for delay in asking to have it corrected. Every independent inventor, every mechanic, every citizen, is affected by such delay, and by the issue of a new patent with a broader and more comprehensive claim. The granting of a reissue for such a purpose, after an unreasonable delay, is clearly an abuse of the power to grant reissues, and may justly be declared illegal and void. It will not do for the patentee to wait until other inventors have produced new forms of improvement, and then, with the new light thus acquired, under pretense of inadvertence and mistake, apply for such an enlargement of his claim as to make it embrace these new forms. Such a process of expansion carried on indefinitely, without regard to lapse of time, would operate most unjustly against the public, and is totally unauthorized by the law. In such a case, even he who has rights, and sleeps upon them, justly loses them.

The correction of a patent by means of a reissue, where it is invalid or inoperative for want of a full and clear description of the invention, cannot be attended with such injurious results as follow from the enlargement of the claim. And, hence, a reissue may be proper in such cases, though a longer period has elapsed since the issue of the original patent. But in reference to reissues made for the purpose of enlarging the scope of the patent, the rule of laches should be strictly applied; and no one should be relieved who has slept upon his rights, and has thus led the public to rely on the implied disclaimer involved in the terms of the original patent. And when this is a matter apparent on the face of the instrument, upon a mere comparison of the original patent with the reissue, it is competent for the courts to decide whether the delay was unreasonable, and whether the reissue was, therefore, contrary to law and void.

We think that the delay in this case was altogether unreasonable, and that the patent could not lawfully be re-

Notes and citations.

issued for the purpose of enlarging the claim and extending the scope of the patent.

The decree of the Circuit Court is affirmed.

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Notes:

1. Reissue must be for same invention as original:

Seymour v. Osborne, 11 Wall. 516 [8 Am. & Eng. 290.]

Gill v. Wells, 22 Wall. 1 [9 Am. & Eng. 471.]

Corn Planter Patent, 23 Wall. 181 [10 Am. & Eng. 1.]

Marsh v. Seymour, 97 U. S. 348 [12 Am. & Eng. 53.]

Mistake apparent on face of patent:

James v. Campbell, 104 U. S. 356 [p. 341 *post.*]

Matthews v. Boston Machine Co., 105 U. S. 54 [p. 501 *post.*]

Bantz v. Frantz, 105 U. S. 160 [p. 542 *post.*]

Gage v. Herring, 107 U. S. 640.

Clements v. Odorless Co., 109 U. S. 641.

Wollensak v. Reiher, 115 U. S. 87.

Reissues void for want of identity with original:

Collar Co. v. Van Deusen, 23 Wall. 530 [10 Am. & Eng. 156.]

Wood Paper Patent, 23 Wall. 566 [10 Am. & Eng. 199.]

Russell v. Dodge, 93 U. S. 460 [10 Am. & Eng. 495.]

Powder Co. v. Powder Works, 98 U. S. 126 [12 Am. & Eng. 201.]

Ball v. Langles, 102 U. S. 128 [12 Am. & Eng. 508.]

Heald v. Rice, 104 U. S. 737 [p. 460 *post.*]

Notes and citations.

Matthews v. Boston Machine Co., 105 U. S. 54 [p. 501 *post.*]
Bantz v. Frantz, 105 U. S. 160 [p. 542 *post.*]
Clements v. Odorless Co., 109 U. S. 641.
McMurray v. Mallory, 111 U. S. 97.
Eagleton v. West, Bradley & Cary Mnfg. Co., 111 U.S. 490.
Torrent & Arms Lumber Co. v. Rodgers, 112 U. S. 659.
Eachus v. Broomall, 115 U. S. 429.
Hartshorn v. Saginaw Barrel Co., 119 U. S. 664.
Worden v. Searles, 121 U. S. 14.
Parker & Whipple Co. v. Yale Clock Co., 123 U. S. 87.
Cornell v. Weidner, 127 U. S. 261.
Flower v. City of Detroit, 127 U. S. 563.

Reissue claims broader than original void:

Hopkins Mnfg. Co. v. Corbin, 103 U. S. 786 [p. 147 *ante.*]
Matthews v. Boston Machine Co., 105 U. S. 54 [p. 501 *post.*]
Moffitt v. Rogers, 106 U. S. 423.
Gage v. Herring, 107 U. S. 640.
Clements v. Odorless Co., 109 U. S. 641.
McMurray v. Mallory, 111 U. S. 97.
Turner Mnfg. Co. v. Dover Stamping Co., 111 U. S. 319.
Coon v. Wilson, 113 U. S. 268.
Wollensak v. Reiher, 115 U. S. 96.
White v. Dunbar, 119 U. S. 47.
Ives v. Sargent, 119 U. S. 652.
Worden v. Searls, 121 U. S. 14.

Notes and citations

2. "Accident, inadvertence, or mistake." Error of Patent Office:
Grant v. Raymond, 6 Pet. 218 [4 Am. & Eng. 245.]
Morey v. Lockwood, 8 Wall. 230 [8 Am. & Eng. 78.]
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Error of solicitors:

- Ives v. Sargent, 119 U. S. 652.
Hartshorn v. Barrel Co., 119 U. S. 664.
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Accident, inadvertence, or mistake:

- Swain Mnfg. Co. v. Ladd, 102 U. S. 408 [p. 1 *ante.*]
McMurray v. Mallory, 111 U. S. 97.
Coon v. Wilson, 113 U. S. 268.
Wollensak v. Reiher, 115 U. S. 96.
Newton v. Furst & Bradley Mnfg. Co., 119 U. S. 373.
Matthews v. Ironclad Mnfg. Co., 124 U. S. 347.
Yale Lock Mnfg. Co. v. James, 125 U. S. 881.
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3. Expanded reissue claims condemned:

- Burr v. Duryee, 1 Wall. 531 [7 Am. & Eng. 224.]
Case v. Brown, 2 Wall. 320 [7 Am. & Eng. 360.]
Carlton v. Bokee, 17 Wall. 463 [9 Am. & Eng. 91.]
Swain Mnfg. Co. v. Ladd, 102 U. S. 408 [p. 1 *ante.*]
James v. Campbell, 104 U. S. 356 [p. 341 *post.*]
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5. Failure to claim as an abandonment:

Suffolk Co. v. Hayden, 3 Wall. 315 [7 Am. & Eng. 405.]

Bridge Co. v. Iron Works, 95 U. S. 274 [11 Am. & Eng. 364.]

Matthews v. Boston Machine Co., 105 U. S. 54 [p. 501 *post.*]

Clements v. Odorless Co., 109 U. S. 641.

Eames v. Andrews, 122 U. S. 40.

Parker & Whipple v. Yale Clock Co., 123 U. S. 87.

Hoskin v. Fisher, 125 U. S. 217.

Not an abandonment:

Battin v. Taggart, 17 How. 74 [6 Am. & Eng. 243.]

6. Abandonment by implication where there is delay in reissuing.

Not abandoned:

Battin v. Taggart, 17 How. 74 [6 Am. & Eng. 243.]

Abandoned:

James v. Campbell, 104 U. S. 356 [p. 341 *post.*]

Matthews v. Boston Machine Co., 105 U. S. 54 [p. 501 *post.*]

Bantz v. Frantz, 105 U. S. 160 [p. 542 *post.*]

Johnson v. Railroad Co., 105 U. S. 539.

Clements v. Odorless Co., 109 U. S. 641.

Turner, etc., Mnfg. Co. v. Dover Stamping Co., 111 U. S. 319.

Mahn v. Harwood, 112 U. S. 354.

Notes and citations.

Wollensak v. Reiher, 115 U. S. 96.
Yale Lock, etc., Co. v. Sargent, 117 U. S. 536.
White v. Dunbar, 119 U. S. 47.
Newton v. Furst & Bradley Mnfg. Co., 119 U. S. 373.
Ives v. Sargent, 119 U. S. 652.
Hartshorn v. Saginaw Barrel Co., 119 U. S. 664.
Matthews v. Ironclad Mnfg. Co., 124 U. S. 347.
Hoskin v. Fisher, 125 U. S. 217.
Cornell v. Weidner, 127 U. S. 261.

Reissue for matter disclaimed or rejected with patentee's acquiescence, invalid:

Leggett v. Avery, 101 U. S. 256 [12 Am. & Eng. 369.]
Goodyear D. V. Co. v. Davis, 102 U. S. 222 [12 Am. & Eng. 524.]
Beecher v. Atwater Mnfg. Co., 114 U. S. 523; and see
Eames v. Andrews, 122 U. S. 40.

Reissue where adverse rights have accrued between date of original and reissue:

Grant v. Raymond, 6 Pet. 218 [4 Am. & Eng. 245.]
Stimpson v. R. R. Co., 4 How. 380 [4 Am. & Eng. 398.]
Battin v. Taggart, 17 How. 74 [6 Am. & Eng. 243.]
James v. Campbell, 104 U. S. 356 [p. 341 post.]
Clements v. Odorless Co., 109 U. S. 641.
Torrent & Arms Co. v. Rodgers, 112 U. S. 659.
Coon v. Wilson, 113 U. S. 268.
Brown v. Davis, 116 U. S. 237.
White v. Dunbar, 119 U. S. 47.
Newton v. Furst & Bradley Mnfg. Co., 119 U. S. 373.
Parker & Whipple v. Yale Clock Co., 123 U. S. 87.

Notes and citations.

Flower v. City of Detroit, 127 U. S. 563.

7. Enlarged claim ; when allowable in reissue :

Battin v. Taggart, 17 How. 74 [6 Am. & Eng. 243.]

Rubber Co. v. Goodyear D. V. Co., 9 Wall. 788 [8 Am. & Eng. 150.]

Russell v. Dodge, 93 U. S. 460 [10 Am. & Eng. 495.]

Eames v. Andrews, 122 U. S. 40.

Permissible variation in reissue :

O'Reilly v. Morse, 15 How. 62 [5 Am. & Eng. 483.]

Russell v. Dodge, 93 U. S. 460 [10 Am. & Eng. 495.]

Eames v. Andrews, 122 U. S. 40.

Reissue limited in order to be sustained :

Swain Mnfg. Co. v. Ladd, 102 U. S. 408 [p. 1 *ante.*]

James v. Campbell, 104 U. S. 356 [p. 341 *post.*]

Gosling v. Roberts, 106 U. S. 39.

Cochrane v. Anilin, etc., 111 U. S. 293.

Brown v. Davis, 116 U. S. 237 ; see also

Wing v. Anthony, 106 U. S. 142.

Hoffheins v. Russell, 107 U. S. 132.

Gardner v. Herz, 118 U. S. 180.

Crawford v. Heysinger, 123 U. S. 589.

Matthews v. Ironclad Mnfg. Co., 124 U. S. 347.

Notes and citations.

Yale Lock Mnfgr. Co. v. James, 125 U. S. 881.

Statutes relating to reissues are :

Act 1832, sec. 3 ; **Act 1836, sec. 13** ; Act 1837, sec. 5
and 8 ; Act 1870, sec. 53 ; R. S. 4916.

Patent in suit:

No. 30,381. Ambrose, J. E. October 16, 1860. Reissue
No. 6,844, January 11, 1876. Lamp.

OTHER SUITS ON SAME PATENT:

Miller v. Bridgeport Brass Co., 1877. 14 Blatch. 282 ; 3 Ban. &
Ard. 20 ; 12 O. G. 667.

Cited:

IN SUPREME COURT IN:

James v. Campbell, 1882. 104 U. S. 356 ; Bk. 26 L. ed. 786 [p. 341
post.]

Heald v. Rice, 1882. 104 U. S. 737 ; Bk. 26 L. ed. 91C [p. 460 *post.*]

Matthews v. Boston Machine Co., 1882. 105 U. S. 54 ; Bk. 26 L.
ed. 1022 [p. 501 *post.*]

Bantz v. Frantz, 1882. 105 U. S. 160 ; Bk. 26 L. ed. 1013 [p. 542 *post.*]

Johnson v. Flushing and North Side R. Co., 1882. 105 U. S. 539 ;
Bk. 26 L. ed. 1162.

Notes and citations.

- Wing v. Anthony**, 1882. 106 U. S. 142 ; Bk. 27 L. ed. 110.
Moffitt v. Rogers, 1882. 106 U. S. 423 ; Bk. 27 L. ed. 76.
Gage v. Herring, 1883. 107 U. S. 640 ; Bk. 27 L. ed. 601.
Clements v. Odorless Excavating Apparatus Co., 1884. 109 U. S. 641 ; Bk. 27 L. ed. 1060.
McMurray v. Mallory, 1884. 111 U. S. 97 ; Bk. 28 L. ed. 365.
Turner & Seymour Mnfg. Co. v. Dover Stamping Co., 1884. 111 U. S. 319 ; Bk. 28 L. ed. 442.
Torrent & Arms Lumber Co. v. Rodgers, 1884. 112 U. S. 659 ; Bk. 28 L. ed. 842.
Mahn v. Harwood (Dis. Opin.) 1884. 112 U. S. 354 ; Bk. 28 L. ed. 665.
Rowell v. Lindsay, 1885. 113 U. S. 97 ; Bk. 28 L. ed. 906.
Coon v. Wilson, 1885. 113 U. S. 268 ; Bk. 28 L. ed. 963.
Wollensak v. Reiher, 1885. 115 U. S. 96 ; Bk. 29 L. ed. 350.
White v. Dunbar, 1886. 119 U. S. 47 ; Bk. 30 L. ed. 303.
Hartshorn v. Saginaw Barrel Co., 1887. 119 U. S. 664 ; Bk. 30 L. ed. 589.
Matthews v. Ironclad Mnfg. Co., 1888. 124 U. S. 347 ; Bk. 31 L. ed. 477.
Yale Lock Co. v. James, 1888. 125 U. S. 447 ; Bk. 31 L. ed. 807.
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IN CIRCUIT COURTS IN:

- Combined Patents Can Co. v. Lloyd**, January, 1882. 11 Fed. Rep. 149.
Streit v. Lauter, 1882. 11 Fed. Rep. 309.
McWilliams Mnfg. Co. v. Blundell, February, 1882. 11 Fed. Rep. 419.
Jones v. Barker, March, 1882. 11 Fed. Rep. 597.
Sheriff v. Fulton, March, 1882. 12 Fed. Rep. 136.
Mackay v. Jackman, April, 1882. 20 Blatch. 66 ; 12 Fed. Rep. 615.
Tyler v. Galloway, April, 1882. 20 Blatch. 446 ; 12 Fed. Rep. 567.
Hayes v. Seton, April, 1882. 20 Blatch. 484 ; 12 Fed. Rep. 120.

Notes and citations.

- Putnam v. Hutchinson**, April, 1882. 11 Biss. 233; 12 Fed. Rep. 127.
Steam Gauge and Lantern Co. v. Miller, May, 1882. 11 Fed. Rep. 718.
Searls v. Bouton, June, 1882. 12 Fed. Rep. 874.
Tillinghast v. Hicks, 1882. 13 Fed. Rep. 388.
Brainard v. Cramme, June, 1882. 20 Blatch. 530.
New v. Warren, July, 1882. 22 O. G. 587.
Holt v. Keeler, August, 1882. 21 Blatch. 68; 13 Fed. Rep. 464.
Newton v. Furst & Bradley Mfg. Co., November, 1882. 11 Biss. 405; 14 Fed. Rep. 465; 15 Reporter, 196.
Fay & Co. v. Fraser, December, 1882. 11 Biss. 422.
Fay v. Preble, December, 1882. 14 Fed. Rep. 652.
Doane & Wellington Mfg. Co. v. Smith, December, 1882. 15 Fed. Rep. 459.
Cote v. Moffitt, February, 1883. 15 Fed. Rep. 345.
Singer Mfg. Co. v. Goodrich, February, 1883. 15 Fed. Rep. 455.
New York Belting and Packing Co. v. Sibley, March, 1883. 15 Fed. Rep. 386.
Poage v. McGowan, March, 1883. 15 Fed. Rep. 398.
Pope Mfg. Co. v. Marqua, March, 1883. 15 Fed. Rep. 400.
Worswick Mfg. Co. v. Steiger, April, 1883. 17 Fed. Rep. 250.
Andrews v. Hovey, May, 1883. 5 McCrary, 181. 16 Fed. Rep. 387; 26 O. G. 1011.
Ives v. Sargent, July, 1883. 21 Blatch. 417; 17 Fed. Rep. 447.
Yale Lock Mfg. Co. v. Berkshire Nat. Bank, August, 1883. 17 Fed. Rep. 531.
Hartshorn v. Eagle Shade Roller Co., October, 1883. 18 Fed. Rep. 90.
Reay Ex. v. Raynor, January, 1884. 22 Blatch. 13. 19 Fed. Rep. 308.
Swift v. Jenks, March, 1884. 19 Fed. Rep. 641.
Sewing Machine Co. v. Frame, May, 1884. 24 Fed. Rep. 596.
Stutz v. Armstrong, July, 1884. 20 Fed. Rep. 843.
Crandal v. Parker Carriage Goods, July, 1884. 20 Fed. Rep. 851.
Yale Lock Mfg. Co. v. James, July, 1884. 22 Blatch. 296; 20 Fed. Rep. 903.
Baltimore Car Wheel Co. v. N. Balt. Passenger Ry. Co., July, 1884. 21 Fed. Rep. 47.
Wooster v. Handy, July, 1884. 21 Fed. Rep. 51; 22 Blatch. 307.

Notes and citations.

Atlantic Giant Powder Co. v. Halings, July, 1884. 21 Fed. Rep. 519.

Matthews v. Ironclad Mnfg. Co., August, 1884. 22 Blatch. 432; 21 Fed. Rep. 641.

Scrivner v. Oakland Gas Co., September, 1884. 10 Sawyer, 391; 22 Fed. Rep. 98; 18 Reporter, 306.

Electric Gas Lighting Co. v. Tillotson, September, 1884. 22 Blatch. 481; 21 Fed. Rep. 568.

Odell v. Stout, October, 1884. 22 Fed. Rep. 159.

Frazer v. Gates & Scoville Iron Works, 1884. 22 Fed. Rep. 439.

Wollensak v. Reiher, October, 1884. 22 Fed. Rep. 651.

Flower v. City of Detroit, November, 1884. 22 Fed. Rep. 292.

Hammond v. Franklin, January, 1885. 23 Blatch. 77; 22 Fed. Rep. 833.

Abbott v. Hoole Mnfg. & Baggage Check Co., February, 1885; 31 O. G. 1561.

Gage v. Kellogg, March, 1885. 23 Fed. Rep. 891.

Shirley v. Mayer, June, 1885. 23 Blatch. 250; 25 Fed. Rep. 39.

Hoe v. Kahler, October, 1885. 23 Blatch. 354; 25 Fed. Rep. 271.

Phillips v. Risser, June, 1885. 26 Fed. Rep. 308.

Hill v. Commissioner of Patents, October, 1885. 4 Mackey's Rep. 266; 33 O. G. 757.

Railway Register Mnfg. Co. v. Broadway & Seventh Ave. R. Co., February, 1886. 26 Fed. Rep. 522.

Boland v. Thompson, February, 1886. 23 Blatch. 440; 26 Fed. Rep. 633.

Russell v. Laughlin, February, 1886. 26 Fed. Rep. 699.

Tubular Rivet Co. v. Copeland, February, 1886. 26 Fed. Rep. 706.

Pope Mnfg. Co. v. Owsley, 1886. 27 Fed. Rep. 100.

Hoe v. Knap, March, 1886. 27 Fed. Rep. 204.

Asmus v. Alden, May, 1886. 27 Fed. Rep. 684.

Hubel v. Dick, July, 1886. 28 Fed. Rep. 132.

Electric Gas Lighting Co. v. Boston Electric Co., December, 1886. 29 Fed. Rep. 455.

Eastern Paper Bag Co. v. Standard Paper Bag Co., February, 1887. 30 Fed. Rep. 63.

Archer v. Arnd, June, 1887. 31 Fed. Rep. 475.

Jenkins v. Stetson, September, 1887. 32 Fed. Rep. 398.

Notes and citations.

Yale Lock Mnfg. Co. v. New Haven Sav. Bank, September, 1887.
32 Fed. Rep. 167.
Holmes Electric Protective Co. v. Metropolitan Burglar Alarm Co.,
December, 1887. 33 Fed. Rep. 254.
Hutchinson v. Everett, December, 1887. 33 Fed. Rep. 502.
Sawyer Spindle Co. v. Eureka Spindle Co., February, 1888. 33 Fed.
Rep. 836.
Putnam v. Keystone Bottle Stopper Co., March, 1889. 38 Fed. Rep. 234
Dickinson v. Parker, April, 1889. 38 Fed. Rep. 411.
Huber v. N. O. Nelson Mnfg. Co., May, 1889. 38 Fed. Rep. 830.
Yale & Towne Mnfg. Co. v. Consol. Time-Lock Co., May, 1889.
38 Fed. Rep. 917.

IN DECISIONS OF COMMISSIONER OF PATENTS IN:

Ex parte Pfaudler, October, 1882. 22 O. G. 1881.
Ex parte Lee, December, 1882. 23 O. G. 342.
Ex parte Flynn, April, 1883. 23 O. G. 2029.
Ex parte Mahnken, August, 1887. 40 O. G. 915.
Ex parte Herr, October, 1887. 41 O. G. 463.
Ex parte Mahnken, September, 1887. 41 O. G. 1269.

IN STATE COURTS IN.

Hill v. Commissioner of Patents, October, 1885. 1 Central Rep. 91.

IN CANADIAN COURTS IN :

Withrow v. Malcolm, September, 1882. 6 Ontario Rep. 12.
Kidder v. Smart, February, 1884. 8 Ontario Rep. 362.

Notes and citations.

IN TEXT-BOOKS:

2 Abb. Pat. Laws, 1886, pp. 182, 192.

Walker on Pats., 1883, pp. 155, 156, 163, 166, 332, 422.

Syllabus.

THOMAS L. JAMES, APPELLANT, v. CHRISTOPHER C. CAMPBELL, CHARLES EDDY, HORACE T. CASWELL AND SAMUEL R. CLEXTON.

SAMUEL R. CLEXTON, APPELLANT, v. CHRISTOPHER C. CAMPBELL, Assignee, etc., THOMAS L. JAMES, HORACE T. CASWELL, CHARLES EDDY AND CHARLES EDDY, as Trustee for H. T. CASWELL and SAMUEL R. CLEXTON.

CHRISTOPHER C. CAMPBELL, Assignee, etc., APPELLANT, v. THOMAS L. JAMES, CHARLES EDDY, HORACE T. CASWELL AND SAMUEL R. CLEXTON.*

104 (14 Otto) U. S. 356-385. Oct. Term, 1881.

[Bk. 26, L. ed. 788 ; 21 O. G. 337.]

Reversing *Ibid*, 17 Blatch. 42 ; and *Ibid*, 5 Ban. & Ard. 630.

Government cannot use patent. Court of Claims. Jurisdiction. Government officer as infringer. Particular patent construed. Reissue for different invention. Expanded reissue claim. Patentee bound by his claim. Machine reissued for process.

- † 1. The Government of the United States has no right to use a patented invention without compensation to the owner of the patent. (p. 355.)
- † 2. Query, whether an officer of the Government can be sued for using an invention only for and in behalf of the Government, and whether the Court of Claims is not the only tribunal in which the claim for compensation can be prosecuted. (p. 356.)
- † 3. Norton's reissued letters patent, No. 4,143, dated October 4, 1870, for an improved post-office stamp for printing the post-mark and canceling the postage stamp at one blow, *held*, to be void by reason of not being for the same invention specified in the original, (No. 38,175, April 14, 1863.) (p. 357.)
- † 4. If a patent fully and clearly describes and claims a specific invention, complete in itself, so as not to be inoperative or invalid by reason of a defective or insufficient specification, a re-

*See Explanation of Notes, page III.

† Head notes by Mr. Justice BRADLEY.

Syllabus.

issue cannot be had for the purpose of expanding and generalizing the claim so as to embrace an invention not specified in the original. *Burr v. Duryee*, 1 Wall. 531 [7 Am. & Eng. 224.] (Reaffirmed p. 370.)

- † 5. In such case the court ought not to be required to explore the history of the art to ascertain what the patentee might have claimed. He is bound by his statement of what his invention was. (p. 370.)
- † 6. A patent for a machine cannot be reissued for the purpose of claiming the process of operating that class of machines, because, if the claim for the process is anything more than for the use of the particular machine patented, it is for a different invention. *Powder Company v. Powder Works*, 98 U. S. 139 [12 Am. & Eng. 201.] (Reaffirmed p. 377.)
- † 7. A patentee cannot claim in a patent the same thing claimed by him in a prior patent, nor what he omitted to claim in a prior patent in which the invention was described, he not having reserved the right to claim it in a separate patent and not having seasonably applied therefor. (p. 384.)

[Citations in the opinion of the court :]

Carr v. U. S., 98 U. S. 433. p. 357.

Burr v. Duryee, 1 Wall. 577 [7 Am. & Eng. 224.] p. 370.

Powder Company v. Powder Works, 98 U. S. 126 [12 Am. & Eng. 201.] p. 377.

Appeals from the Circuit Court of the United States for the Southern District of New York.

The case is stated by the court.

The drawings of the letters patent referred to in the opinion are as follows :

Messrs. Chas. Devens, Attorney-General, and Samuel B. Clarke, for James :

[After making a long argument to the effect that the patent was invalid : first, because Norton was not the first inventor ; then because of abandonment and want of patentability in the invention,] continued :

We claim that the reissue patent in suit is void, because it is not for the same invention as the original patent.

M. P. Norton,
Hand Stamp.

No. 38,175.

Patented April 14, 1893

Fig. 3.

c

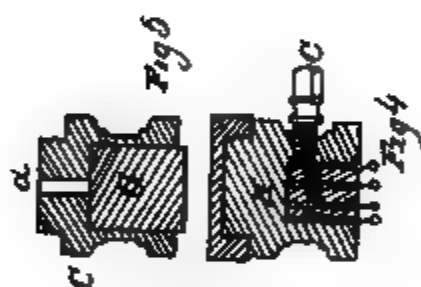


Fig. 2.

Fig. 1.

Witness

Geo. D. Hillman
Hand Stamp

Inventor

M. P. Norton

M. P. Norton,
Hand Stamp.

No 4143.

Reissued Oct 4, 1870.



Fig. 1



Fig. 6

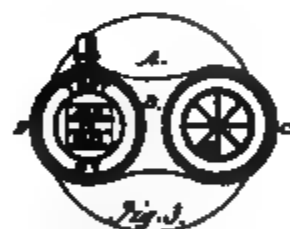


Fig. 2



Fig. 5.



Fig. 4.



Fig. 3.



Fig. 7

Witnesses:
Edw. W. Dowd
M. C. C. C.

Inventor,
Marcus P. Norton.

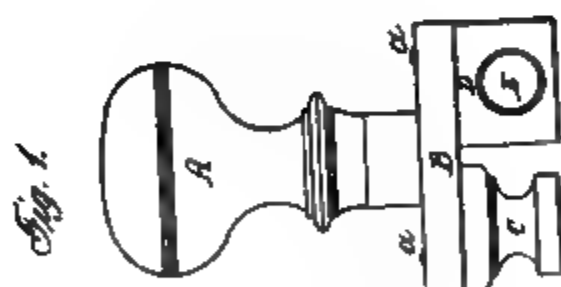
M. P. Norton,
Hart, Sturtevant.

Patented Dec. 16, 1868

No 37,175

Fig. 3.

Fig. 2.



Witnesses

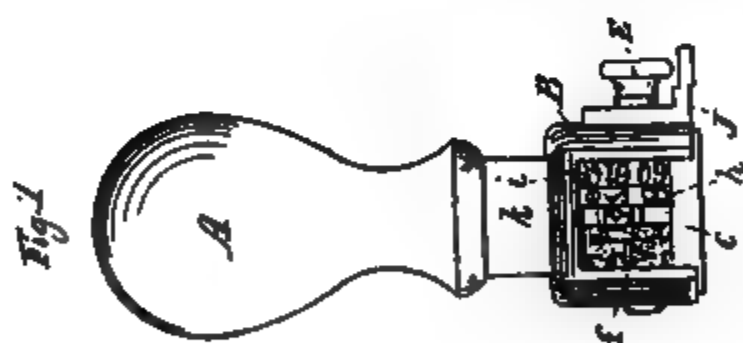
Franklin Park
in H. 16, Cherry

Inventor

Marcus P. Norton
Fry N.Y.

M. P. Norton.
Hand Stamp.
No 25030. Patented Aug 9 1859.

Fig 2



WITNESS

H. P. Norton
Hand Stamp

M. P. Norton

Argument of counsel.

Gill v. Wells, 22 Wall. 1 [9 Am. & Eng. 471 ; [The Corn-Planter Patent, 23 Wall. 181 [10 Am. & Eng. 1 ;] The Wood Paper Patent, 23 Wall. 567 [10 Am. & Eng. 199 ;] Russell v. Dodge, 93 U. S. 460 [10 Am. & Eng. 495.]

The abuse of the privilege of reissuing patents, illustrated in this case, has received the severe censure of this court in Burr v. Duryee, 1 Wall. 531 [7 Am. & Eng. 224.]

The following is the supplemental brief filed by the counsel for Mr. James on the points "Whether a patent excludes the Government," and "Whether the alleged infringement herein is an Act of State which relieves the government officer from personal liability."

The evidence shows that the postmarking and canceling stamps used at the New York office were purchased with the money of the United States, and were its property, and the use thereof was with the knowledge and approval of the Postmaster-General. It does not appear that the use was originally directed by him. It also appears that Congress knew of and ratified the use.

The Revised Statutes, section 4049, provide that the accounts of the postal service shall be kept in such manner as to show the amount of expenditure, among other things, for "postmarking and canceling stamps."

See, also, the Private Resolution of Congress, approved July 14, 1870, which was offered in evidence by Campbell.

I. The grant of a patent for an invention does not exclude the Government from using the thing patented. Feather v. Queen, 6 Best & S. 257 ; Dixon v. London Small Arms Co., L. R. 10 Q. B. 130 ; S. C. in Ct. of App. L. R. 1 Q. B. D. 384 ; S. C. in H. of L., L. R., 1 App. Cas. 632.

The English judges, in reaching their conclusion, were guided by the following principles :

1. The sovereign's grant is to be construed against the grantee.

2. The sovereign is not bound by the general words of a statute or grant, unless expressly named or included by necessary implication.

Argument of counsel.

These principles have been held to apply as much to the sovereignty of the United States as they do to the Crown of England. *Charles River Bridge v. Warren Bridge*, 11 Pet. 420; *Bk. v. U. S.*, 19 Wall. 227.

II. The, alleged infringement, consisting in the use of government property by a government officer was an Act of State, which merges the individual liability of the officer and remits the owner of the patent to such remedy against the Government directly as the law affords.

Heaton v. Quintard, 7 Blatchf. 73; *Buron v. Denman*, 2 Exch. 167; *Wiggins v. U. S.*, 3 Ct. of Claims, 422; *Carr v. U. S.*, 98 U. S. 433; *Langford v. U. S.*, 101 U. S. 341; *Doe v. Roe*, 8 Mees. & W. 579; *U. S. v. McLemore*, 4 How. 286; *Hill v. U. S.*, 9 How. 389.

Messrs. Geo. H. Williams, Benjamin F. Butler, and M. P. Norton, for Campbell:

Mr. Justice CLIFFORD lays down the undoubted law upon this subject as follows:

“Reissued patents are presumed to be for the same invention as the original, and will only be adjudged to be void because for a different invention where it clearly appears that the reissue contains some new feature of a material character not described, suggested, nor substantially indicated in the specifications, drawings, or Patent Office model. *Thomas v. Shoe Mnfg. Co.*, 16 O. G. 541.

If the court will look at the drawings of the original patent and at the drawings of the reissues they will see that they are identically the same, the only variance being a more particular description in the latter.

There is nothing in the reissues that is not contained or clearly suggested in the drawings and specifications of the original patent.

Moreover the mere substitution of one material for another, such as iron for wood, or wood for bone, is not an invention or a substantial change in the construction of an invention.

Argument of counsel.

Hotchkiss v. Greenwood, 11 How. 248 [5 Am. & Eng. 240 ;] Battin v. Taggart, 17 How. 83 [6 Am. & Eng. 243 ;] Powder Co. v. Powder Works, 98 U. S. 136 [12 Am. & Eng. 201.]

A patentee has a right to restrict or enlarge his claim in a patent, so as to give it validity and to effectuate his invention. Imhaeuser v. Buerk, 101 U. S. 647 [12 Am. & Eng. 443 ; Herring v. Nelson, 14 Blatch. 301 ; Allen v. City of New York, 17 O. G. 1281.]

Section 1673 of the Revised Statutes provides that "No royalty shall be paid by the United States to any one of its officers or employes for the use of any patent," etc.

This clearly implies that the United States are bound to pay for the use of a patent outside of this prohibition.

Acts have been passed by Congress for the relief of persons whose patented inventions have been used by the Government. U. S. Statutes, vol. 17, p. 677.

Contracts have been made by the departments of the Government to pay for the use of patented articles. U. S. v. Burns, 12 Wall. 252 [8 Am. & Eng. 458.]

All the authorities are clear to the effect that what the patentee acquires under his letters patent is property. In McCowl v. Everest, 1 Wood, 201, Judge Wood says: "The property in a patent is just as much under the protection of the law as property in lands."

Now if a patent right is private property it is under the protection of Article 5 of the Constitution, which provides, "nor shall private property be taken for public use without just compensation."

The general Government is bound by its contracts. Sinking Fund Cases, 99 U. S. 719.

A grant is a contract. Fletcher v. Peck, 6 Cranch, 87.

In McKeever v. United States, 14 Ct. of Claims, 422, after a thorough discussion of this question the court holds that the general Government is bound by its letters patent.

Whatever may be the rule in England the doctrine of this country is that the Government has no right to change or

Argument of counsel.

violate a grant which it has absolutely made and under which property rights have been acquired.

As to the point that defendant was postmaster in New York, Chief Justice COCKBURN, in *Feather v. Queen*, 6 Best & S. 257, says: "In our opinion no authority is needed to establish that a servant of the Crown is responsible in law for a tortuous act done to a fellow-subject, though done by the authority of the Crown. * * * We entertain no doubt that if the effect of the letters patent had been to exclude the Crown from the use of the invention an action could have been maintained by the patentee against any one by whom the invention had been used in the public service." See also *Entick v. Carrington*, 2 Wel. 275; *Money v. Leach*, 3 Burr. 1742; *Mostyn v. Fabrigos*, Cowper, 161; *Johnston v. Sutton*, 1 Term Rep. 502; *Wils v. McNamara*, 1 Term Rep. 536; *Sutherland v. Murray*, 1 Term Rep. 538.

Judicial or *quasi*-judicial officers are not personally liable for an error of judgment, but it is well settled in this country that ministerial and executive officers are personally liable for an injury to person or property not authorized by law, and good intentions or orders from superior authority do not excuse them.

Military and naval officers of the Government are liable for their official acts not warranted by law.

Little v. Barreme, 2 Cranch, 170; *Mitchell v. Harmony*, 13 How. 115; *Burns v. Clarke*, 95 U. S. 204; *Cammeyer v. Newton*, 94 U. S. 234 [11 Am. & Eng. 98;] *Brady v. Atlantic Works*, 4 Cliff. 408.

The property in a patented invention stands the same as other property in this respect. *United States v. Burns*, 12 Wall. 246 [8 Am. & Eng. 458;] *Cammeyer v. Newton*, 94 U. S. 225 [11 Am. & Eng. 93.]

Mr. Edward S. Bettens, for Clexton and Caswell, and Charles Eddy, their trustee.

Opinion of the court.

Mr. Justice BRADLEY delivered the opinion of the court :

This case is founded on a bill in equity filed by Christopher C. Campbell, the complainant below, against Thomas L. James, United States Postmaster in and for the city of New York, to enjoin him from using a certain implement for stamping letters, which the complainant claims to have been patented to one Marcus P. Norton, by letters patent dated April 14, 1863, and surrendered and reissued on the 23d of August, 1864 ; and again surrendered and reissued on the 3d of August, 1869 ; and again, finally, on the 4th of October, 1870. The complainant claims to be assignee of Norton, the patentee. Other persons claiming an interest in the patent were made parties to the suit. The Circuit Court rendered a decree in favor of the complainant, and adjusted the rights of the several parties to the amount of the decree. The defendant, James, appealed. The other parties, not being satisfied with the decree as it affected their mutual interests, also appealed. The case is now before us in all its aspects. Supposing the court below to have had jurisdiction of the case, the first question to be considered will be the liability of the principal defendant, James, to respond for the use of the machine or implement in question.

That the Government of the United States when it grants letters patent for a new invention or discovery in the arts, confers upon the patentee an exclusive property in the patented invention which cannot be appropriated or used by the Government itself, without just compensation, any more than it can appropriate or use without compensation land which has been patented to a private purchaser, we have no doubt. The Constitution gives to Congress power "To promote the progress of science and useful arts by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries," which could not be effected if the Government had a reserved right to publish such writings or to use such inven-

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tions without the consent of the owner. Many inventions relate to subjects which can only be properly used by the Government, such as explosive shells, rams, and submarine batteries to be attached to armed vessels. If it could use such inventions without compensation, the inventors could get no return at all for their discoveries and experiments. It has been the general practice, when inventions have been made which are desirable for government use, either for the Government to purchase them from the inventors, and use them as secrets of the proper department; or, if a patent is granted, to pay the patentee a fair compensation for their use. The United States has no such prerogative as that which is claimed by the sovereigns of England, by which it can reserve to itself, either expressly or by implication, a superior dominion and use in that which it grants by letters patent to those who entitle themselves to such grants. The Government of the United States, as well as the citizen, is subject to the Constitution; and when it grants a patent, the grantee is entitled to it as a matter of right, and does not receive it, as was originally supposed to be the case in England, as a matter of grace and favor.

But the mode of obtaining compensation from the United States for the use of an invention, where such use has not been by the consent of the patentee, has never been specifically provided for by any statute. The most proper forum for such a claim is the Court of Claims, if that court has the requisite jurisdiction. As its jurisdiction does not extend to torts, there might be some difficulty, as the law now stands, in prosecuting in that court a claim for the unauthorized use of a patented invention; although where the tort is waived, and the claim is placed upon the footing of an implied contract, we understand that the court has, in several recent instances, entertained the jurisdiction. It is true, it overruled such a claim on the original patent in this case, presented in 1867; but, according to more recent holdings, it would probably now take cognizance of the case.

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The question of its jurisdiction has never been presented for the consideration of this court, and it would be premature for us to determine it now. If the jurisdiction of the Court of Claims should not be finally sustained, the only remedy against the United States, until Congress enlarges the jurisdiction of that court, would be to apply to Congress itself. The course adopted in the present case, of instituting an action against a public officer, who acts only for and in behalf of the Government, is open to serious objections. We doubt very much whether such an action can be sustained. It is, substantially, a suit against the United States itself, which cannot be maintained under the guise of a suit against its officers and agents except in the manner provided by law. We have heretofore expressed our views on this subject in the case of *Carr v. The United States*, 98 U. S. 433, where a judgment in ejectment against a government agent was held to be no estoppel against the Government itself.

But as the conclusion which we have reached in this case does not render it necessary to decide this question, we reserve our judgment upon it for a more fitting occasion.

The subject-matter of the patent on which the bill in this case was founded, is an implement or stamp for postmarking letters and canceling revenue and postage stamps. The original patent, dated April 14th, 1863, exhibited two stamps connected together by a cross-bar which was attached to a handle; one stamp being intended for printing the postmark, and the other for canceling the postage-stamp, both operations being performed by a single blow. The stamps consisted of small hollow blocks or cylinders, in which were inserted and fastened the types which produced the impression desired. In one were placed the lettered types which produced the postmark, and in the other a single type which blotted or canceled the postage-stamp. The patentee, in his specification, described the invention as follows:

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“The nature of my improvements, herein described, consists in the employment and combination of a device for canceling postage or other stamps by means of wood, cork, or similar material inserted in a tube or recess therein, for the purpose of effacing or blotting such stamps with indelible ink. It also consists in the combination of a canceling device having wood, cork, rubber, or any similar material for the type or blotter therein, with any postmarking device so as to blot, cancel, or efface postage-stamps with indelible ink at the same time and operation of postmarking of letters, packets, etc., etc.

“To enable others skilled in the art to which my invention relates to make and use the same, I will here proceed to describe the construction and operation thereof, which is as follows, to wit: I construct the postmarking stamp (D) of any suitable material. (E), Fig. 3, is the mortise or recess of suitable dimensions to receive the type for the month, the day of the month, and the year, around which is the name of the place where used, and is the same as the postmarking device described in my letters patent, bearing date the sixteenth day of December, 1862, and which is secured to the cross-piece (B) in the same manner and by the same means as described and set forth in the said patent, which is also the case with the canceling device (C).

“I construct the canceling stamp or device (C) of any suitable material, of any size required in diameter, and in length to correspond to the postmarking device (D). (F), Fig. 3, is the tube or recess in the device (C) for the purpose of receiving the blotting or canceling device (G), Figs. 2 and 5, which device is made of wood, cork, rubber, or similar material, so as to closely fit the said tube or recess (F), Fig. 3. The face of this device may contain a plan or form for canceling with indelible ink, like that shown at Fig. 2, or it may have any plan or form for that purpose thought best to devise or use. This device (G) may project somewhat below the lower end of the said tube (F), as seen at Fig. 5, and may

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also project below the face of the postmarking or rating device (D), Figs. 2 and 3, and it may be driven out of the said tube or recess by means of a pin or bolt operating through the hole (A), Figs. 3 and 5, for the purpose of repairs, or to replace it by a new one. The said tube or recess (G) may be any size in diameter required or any depth desired. The said canceling stamp or device (C) being thus constructed with, cork, rubber, or other elastic substance for type or blotter, will receive and hold on the face thereof, ink, in quantities sufficient to blot or cancel the postage-stamp in such manner as to prevent the possibility of the said postage-stamp being cleansed of the canceling ink by any chemical or other process, for the said ink would be so effectually put thereon that any attempts to remove it therefrom would entirely destroy the said postage-stamp, and thereby render the same incapable of a second or re-use. The said cork, rubber, or other elastic substance, as aforesaid, will render the said stamp capable of an easy and rapid use, for there being a yielding of the same when the blow is given, the operator will not tire as soon by a constant or continued use of the same as though it were of solid metal, and the same will greatly aid in raising the entire stamp from the paper and postage-stamp when the impression shall have been given by the operator. The said blotter or type can be more easily repaired or replaced by a new one at less expense than if made of solid metal. The said cork, rubber, or other elastic material may extend upward to the said cross-bar (B), and there be connected to the same by a screw or pin-bolt, if desired, which will be the same in effect and in operation.

“Having thus described my invention and improvements in marking and canceling stamps, what I claim and desire to secure by letters patent of the United States of America, therein, is :

“1. The canceling device (C) with wood, cork, or rubber type or blotter (G) therein, or any device substantially the

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same, so as to cancel the postage-stamp with indelible ink, substantially as herein described and set forth.

“ 2. I also claim the canceling device (C) with wood, cork, or similar material forming the type or blotter (G) therein, in combination with the cross-piece (B), and with the post-marking device (D) substantially as herein described and set forth.”

We have given the description and claim in full for the purpose of better comparing it with the reissued patent on which the suit was brought, and which is dated October 4th, 1870. It will be seen that the invention claimed is very specific and definite in its character. In the first place, the canceling device is claimed separately, consisting of a hollow tube, in which is inserted the canceling type or blotter made of wood, cork, rubber, or other elastic substance. The nature of the substance of which the blotter was to be made is emphasized thus: “The said cork, rubber, or other elastic substance as aforesaid, will render the said stamp capable of an easy and rapid use, for there being a yielding of the same when the blow is given, the operator will not tire as soon by a constant or continued use of the same *as though it were of solid metal*, and the same will greatly aid in raising the entire stamp from the paper and postage-stamp when the impression shall have been given by the operator. The said blotter or type can be more easily repaired or replaced by a new one, at less expense *than if made of solid metal*.” It is plain, therefore, that elasticity in the material of which the blotter was to be composed was a distinctive feature of the blotting device thus separately claimed. Besides the advantages referred to in the foregoing extracts, its superior adaptability to hold indelible ink, was evidently regarded by the inventor as important. From the facts appearing in the case, it is quite clear that a separate claim of this blotting device could not have been sustained had it not presented these special characteristics; had it not, in fact, contained all the elements it did contain. The patentee himself, as will be

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more fully seen hereafter, had, shortly before his application for this patent, obtained a patent for a double stamp exactly like the one patented in this, except that the blotter type was made of "steel, or other material which would answer the purpose." Of course, he could not claim a blotter of like material in the patent now under consideration. And the record is full of evidence to show that hand-types for stamping letters and other characters with or without the use of ink had long been constructed of almost every kind of material. The general form of the instrument was old. Stamps fastened to what is called a brad-awl handle, adjusted thereto centrally, so as to balance the pressure, was used for seals and other instruments for making impressions of every sort from time immemorial; and hand-stamps of the same general description, having a cylindrical type-holder in place of a seal, made hollow for inserting and holding the type had long been used in the Post Office Department. It was not without good cause, therefore, that the separate claim for the canceling device, as a distinct invention, was confined to an elastic type or blotter inclosed in a hollow tube. In like manner, the combination of devices in the entire instrument, forming the subject of the second claim, was necessarily specific in its character, being restricted by the special construction of the canceling device. The specific form of a cross-bar to sustain the type-holder, and balance the effect of the blow or pressure when making the impression, was substantially contained in the common hand-type, long before used for printing names on linen with indelible ink. This instrument consisted of a metallic trough or receiver to hold the type, the bottom of which, at its middle part, was attached to a wooden brad-awl handle. Inserting the types for a postmark in one end of this device, and the type for blotting the postage-stamp in the other, it would be a complete double stamp like that claimed by Norton, the patentee. The fact that it might require a stronger piece of metal for postoffice uses than was required for stamping letters on

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cloth, or that the type-holder would be better adapted to the purpose by being divided into two compartments, does not detract from the substantial similarity of the instruments. Given, the idea of stamping the postmark and blotting the postage stamp with one instrument at a single blow, it required but little invention, in view of what was then in common use, to adjust the printing apparatus to the handle by means of a block, shoulder, or cross-bar, or other similar device. The needs and requirements of the instrument would soon be developed, and manifest themselves to any skilled workman in that branch of mechanics.

The evidence does not show to our satisfaction that Norton was by any means the first inventor of a double post office stamp, so constructed as to make the postmark and cancel the postage-stamp at one blow. If that fact was important, the burden of proof was on the complainant to show that Norton's invention antedated those of others proven in the cause, of which there were several independent of each other. But there is no satisfactory proof that Norton ever produced, prior to 1862, or, at most, prior to 1861, any other double stamp than one which he patented in 1859. In connection with one C. A. Haskins, he obtained a patent in October, 1857, for a hand-stamp attached to a standard with a projecting arm, and provided with a spring to lift it from the paper automatically, after the blow which made the impression was given. This stamp was an elaborate and complicated contrivance of wheels and cylinders for arranging and manipulating the types for making letters and figures showing the month and day of the month in the postmark. It had no hint of any secondary apparatus for effacing a postage-stamp at the same time. But in August, 1859, Norton obtained a patent for the use of his assignees, Reynolds and Low, which did contain a device for effacing the postage-stamp. Low seems to have been associated with him in the patent of 1857 in the way of furnishing money, but what was the nature or extent of the assignees' real in-

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terest in the patent of 1859 is not made to appear. The application for this patent was dated May 3, 1859, but when filed in the Patent Office is not shown. The principal feature of the stamp described in this patent was also an elaborately contrived device for arranging the types for the letters and figures in the postmarking stamp, something in the same line with that described in the patent of 1857; no claim for which, however, was allowed. But to the postmarking stamp, which was fixed to the handle in the ordinary way, was attached, on one side, entirely outside of the bearing of the handle, a flat piece of metal to be used as a blotter, for which, in combination with the postmarking stamp, a claim was allowed. It is clear to us that this was the stamp to which Norton alluded, and which he asked to have the privilege of testing in the postoffice at Troy, in his letter to the Assistant Postmaster-General of the 11th of April, 1859, on which much stress has been laid by the complainants. The letter does not give a description of the stamp he wished to test, but it concludes with these words: "I herewith inclose you an envelope containing a postmark from the stamp on the left, and an erasure upon the stamp made at the same operation of postmark. As *now* constructed, it is believed to work well." This is a clear intimation that what he desired to have tested had been recently brought to its existing form. In a former part of the letter he had said: "While the order given by your department was in force, I was unable, in consequence of sickness, to thoroughly test my stamp. It was used upon about three thousand letters only during that time. I have since made some changes in it which seem to make it a much better thing for the purpose designed. Now I ask the opportunity to test it without any expense to the government." An order was made by Mr. King, the Assistant Postmaster-General, on the 4th of May, 1859, authorizing the postmaster at Troy to use for postmarking letters at his office for the term of three months "Norton's improved marking stamp." The application for

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the patent had been prepared and sworn to, the day previous to this order, namely, May 3d, 1859. In this application the description of the invention commences thus:

“The nature of my invention consists in constructing, combining, and arranging a hand-stamp, hereinafter described, so as to contain a cylinder with the initials of each and every month in a year, and two other cylinders with figures for the respective days of each and every month; also a cylinder with figures to represent ten years, more or less as the case may be, which cylinders shall revolve upon the same shaft with each, and within a stationary form of type, and thereby print the month, the day of the month, and the year in connection with each, and each in connection with and at the same time of the printing of the subject-matter upon the aforesaid stationary form of type. It also consists in attaching a blotter, hereinafter described, to the hand-stamp aforesaid, upon one or two sides thereof, for the purpose of cutting, blotting, canceling, or effacing ‘the frank’ or postage-stamp, so as to prevent a second use of the same, while at the same time the name of the ‘post office,’ the year, the month, and the day of the month is printed upon the envelope and one side of the said frank or postage-stamp, thereby giving a good impression of the same, and prevent undue wear of the said postmarking stamp in consequence of being used upon the uneven surface made by the said frank or postage-stamp.”

Now, if Norton had, as he pretends, invented, as early as 1854, the stamps for which he took out his subsequent patents in 1862 and 1863, it is hardly conceivable that he should have taken out the patents of 1857 and 1859 in the form in which they stand. The fact that he did take them out reduces it almost to a demonstration that he had not invented any such stamps at this time.

It is true he produces a *caveat* filed by him in 1853, which has, or had, an amendment bearing date “Tinmouth, Vt., August 7th, 1854,” which amendment contained a full de-

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scription of the double stamp as finally exhibited in his patent of 1863, and the reissue thereof. But this amendment was shown to have been surreptitiously introduced by him amongst the papers of the office, certainly as late as 1864, ten years after its pretended date. In his examination as a witness in this cause, he admitted that he made the paper referred to in the summer of 1864, when his assignees, Shavor and Corse, were applying for a reissue of the original patent now in question, and that it was used in that application; but he pretends that it was a copy of a paper which he made and sent to the Patent Office in 1854. No such original paper, however, has ever been found in the Patent Office, and on a regular charge for the offense of making the surreptitious paper and introducing it amongst the files, he was found guilty in September, 1871, and debarred, by order of the Commissioner of Patents, from further access to the papers of the office.

This amended *caveat*, therefore, as well as the testimony of Norton on the subject, may be laid out of view.

A witness by the name of Sherwood, a machinist and model-maker, was examined, who produced a sheet or two of items of account, copied from his books, showing charges against Norton for work on "stamps" in 1857, 1859, 1860, and 1862. There were four items in 1857 under date of May, for certain hours of work, charged thus: "May 8. To three hours, finish stamp." There was a large number of items of similar character in the other years named, particularly in January and March, 1859, and August, September, November, and December, 1862, corresponding, as will be observed, with the times when Norton must have been getting up his models for his different patents. The witness was unable to distinguish the kind of stamps he worked on at these different dates, except that he professed to feel quite sure that the first one would postmark a letter and cancel a stamp thereon at the same time. Describing, on his cross-examination, the stamp which he thus referred to, he says:

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“It was a dating wheel-stamp, the wheels giving the dates, with a die for the office and year in the top of the frame that held it, blotting or canceling at one end the impression given by a blow on the lever by the hand.” Now this description applies aptly to both the stamp patented in 1857 and to that patented in 1859, except that it was the latter only which had the blotting attachment. We think it perfectly apparent that the witness had, by a very natural mental process, confounded the instruments together, and imagined that the blotter was attached to the first instead of the second invention. His examination took place twenty years after the date of the accounts, and he relied solely on his memory as to the character of the articles which he worked upon.

This is really the strongest evidence that can be found in the record affording any ground for the conclusion that Norton ever produced any double stamp at all prior to the one he patented in 1859. The testimony of Mr. King, the former Assistant Postmaster-General, when compared with his own contemporary letters and other circumstances, clearly indicates that he had, quite naturally, confounded the device of one date with that of a later date. Other evidence was relied on, but all of such a loose and indefinite character that no reliance can be placed on it in support of the complainant's theory. And it is quite significant that no stamp of the kind claimed, made at the period in question, was produced in the examination. Had such stamps ever been in existence, it is strange that they should have altogether disappeared.

Now, there is abundant evidence in the record to show that double stamps were conceived of and used before 1859, and that about that time they sprung up spontaneously in various parts of the country. It was but recently that there had been any demand for their construction, since postage-stamps had not been in general use in the country for any long period. They were first authorized to be issued and

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used by the Act of March 3d, 1847, but it was optional to use them or not. By the Act of 1851, postage on single letters was reduced from five cents to three on being pre-paid. 9 Stat. 587. It was not till the passage of the Act of March 3, 1855, that all postage (*a*) was required to be pre-paid. This law first brought postage-stamps into universal use; and as they must be canceled, two impressions had to be made on a letter, one for the ordinary postmark, giving the place and date of mailing the letter; the other for canceling or effacing the postage-stamp. This required two blows and produced double work. But without any great exercise of ingenuity, postmasters and clerks in various places improvised double stamps, generally by screwing, welding, or binding to the side of the common stamp an appendage to serve as a blotter at the same time. This was done by Ezra Miller, at Janesville, Wisconsin, as early as January, 1859, or in 1858; and by Gen. Dix, in New York, and one Powers in Buffalo, in the summer of 1860. There is also evidence that a similar appendage for the purpose of stamping a large figure 5, to show the postage due, was invented and used by one Rees in the Philadelphia post-office as early as 1845, when the rates of postage were five and ten cents; and that one Ireland devised and used at the same office a like appendage for canceling postage-stamps as early as 1853. Other similar devices were referred to in the evidence. The adoption of a more artistic and convenient form of the instrument thus spontaneously originated, as its use was continued and became more imperative, was a matter of course. Norton's particular form and construction of the double stamp, as described in his patent of 1863, was undoubtedly an improvement; but we should expect to find, as we do find, that he was restricted in his claim to the particular form and construction set forth in his specification.

A reference to Norton's application for the original pat-

104 U. S. 367-368.

(*a*) Otto inserts, "except on letters to or from a foreign country"

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ent in question in this case, a copy of which is in evidence, and which, being preserved of record in the Patent Office, may properly be referred to, shows that the functionaries of that office regarded it important that the instrument sought to be patented should be specialized with particularity. This application was presented to the office on the 5th of January, 1863, and was rejected on the 21st of February. On the 21st of March, 1863, the application was renewed in a letter addressed by Norton to the Commissioner of Patents, and after certain amendments were made to the specification, the patent was allowed to pass. The most important amendment was the insertion of that portion of the specification commencing with the words, "The said canceling stamp or device (C) being thus constructed with cork, rubber, or other elastic substance for type or blotter," and so on, to the end of the paragraph. This amendment derives further importance and illustration from the letter of Norton above referred to, in which a renewal of the application was made, and which was dated at the National Hotel, in Washington, March 21st, 1863. In that letter the writer says:

"I do not understand that the device referred to in your letter of the 21st of February last is 'a common ink canceling stamp, such as has been used for years in our post offices for blotting and thus canceling postoffice stamps.' The devices to which you undoubtedly refer have always been made of metal entirely or of wood entirely. Wood was found to answer no purpose, because not at all durable, so metal ones were used. *Now, this device consists of a barrel or tube, into which wood, cork, rubber, or some such material is inserted, for the purpose of holding an indelible ink in quantities sufficient to blot the postage-stamp so thoroughly as to prevent the same being washed or cleansed by a chemical mixture and again being used in payment of postage. This tube or barrel holds firmly the elastic substance therein, and prevents the same from undue wear*

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and exposure. The elastic substance therein being worn out, can again be replaced at the office where used, thus saving the trouble and expense of returning the same to the government contractors for such repairs. This, therefore, constitutes a new device, composed of two distinct parts in combination, producing new results, besides blotting the postage-stamp.

“This device being new, its combination with the post-marking device, for the purposes set forth in the specification, is of course new. Upon these two claims I, therefore, most respectfully ask a patent.”

On the same day that this letter was received, according to the memorandum on the file-wrapper, the specification was returned to the applicant to enable him to amend it, and was re-examined on the 26th of March ; and favorably passed upon on the 1st of April. No one can read the patent in the light of these contemporary documents, and of the previous history of the stamp, without arriving at the conclusion that, so far as the blotting device was separately concerned, the invention consisted of and was confined to a tube containing a type-blotter made of an elastic substance, as contradistinguished from iron or other hard substance. The iron or steel blotter had been patented in 1862, as already mentioned, and as will be shown more fully hereafter. There was not, there could not have been, any inadvertence or mistake in confining the invention to the combination described and claimed in the patent.

The second claim is merely that of a combination of this specific device with the other parts of the apparatus. As the patentee says, in his letter to the Commissioner, “This device being new, its combination with the postmarking device for the purposes set forth in the application is, of course, new.” In other words, the substantive invention, for which the applicant desired a patent, was the blotting device constructed specifically in the manner and for the purpose described. The addition of the combination claim

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was for the purpose of possibly securing the combination, if the principal claim should be found to be untenable.

Perhaps we have gone more minutely into the evidence relating to the progressive improvements in this instrument than was necessary to show that the claim of the patent was not more restricted than it should have been. The court ought not to be called upon to explore the entire history of an art in order to ascertain what a patentee might have included in his patent had he been so disposed. If he was the author of any other invention than that which he specifically describes and claims, though he might have asked to have it patented at the same time, and in the same patent, yet if he has not done so, and afterwards desires to secure it, he is bound to make a new and distinct application for that purpose, and make it the subject of a new and different patent. When a patent fully and clearly, without ambiguity or obscurity, describes and claims a specific invention, complete in itself, so that it cannot be said to be inoperative or invalid by reason of a defective or insufficient specification, a reissue cannot be had for the purpose of expanding and generalizing the claim so as to make it embrace an invention not described and specified in the original. It is difficult to express the law on this subject more aptly and forcibly than in the words of Mr. Justice GRIER, in the case of *Burr v. Duryee*, 1 Wall. 577 [7 Am. & Eng. 224,] where, in delivering the unanimous opinion of the court, he says: "The surrender of valid patents, and the granting of reissued patents thereon, with expanded or equivocal claims, where the original was clearly neither 'inoperative nor invalid,' and whose specification is neither 'defective nor insufficient,' is a great abuse of the privilege granted by the statute, and productive of great injury to the public. This privilege was not given to the patentee or his assignee in order that the patent may be rendered more elastic or expansive and, therefore, more 'available' for the suppression of all other inventions." Of course, if, by actual in-

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advertence, accident, or mistake, innocently committed, the claim does not fully assert or define the patentee's right in the invention specified in the patent, a speedy application for its correction, before adverse rights have accrued, may be granted, as we have explained in the recent case of *Miller et al. v. Bridgeport Brass Co.*, 14 Otto, 350 [p. 303 *ante.*] But where it is apparent on the face of the patent, or by contemporary records, that no such inadvertence, accident, or mistake, as claimed in a reissue of it, could have occurred, an expansion of the claim cannot be allowed or sustained.

Turning now to the reissued patent on which the present suit was brought, which is the third reissue, dated October 4th, 1870, we find the invention described as follows :

“The nature of my said invention and improvements herein contained and described consists in the employment and combination of a device or die used for the more complete and perfect cancellation of postage-stamps or letter-franks by means of soft wood used endwise, or of cork, rubber, *or other suitable material*, whereby such stamp or frank is effaced and canceled, in and by indelible or other ink, in the manner substantially as herein described and set forth.

“It also consists in the combination of a postage-stamp canceling device or die, constructed of wood, cork, rubber, *or any suitable material*, with any suitably arranged and constructed postmarking stamp or device, so as to cancel, efface, or destroy the postage-stamp or letter-frank with indelible or any suitable ink at the same time, blow, or operation of the stamp or instrument by which the postmark is given or made upon the letter, envelope, or packet, substantially as herein described and set forth.

“It also consists of the postmarking of letters, envelopes, or packets, and in the cancellation of the postage stamp or stamps thereon, with, in, or by any suitable ink, or similar material, by means of some soft wood used endwise against

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postage-stamp, or by means of the cork, rubber, *iron or steel, or by means of any other suitable material* so combined with the postmarking stamp or instrument as to cancel, efface or destroy the postage stamp or stamps at one and the same blow or operation of the entire instrument thus constructed for that purpose, whereby to prevent a second or re-use of such postage stamp or stamps."

After some details as to the mode of construction, the specification proceeds:

"The said canceling type or die can be easily repaired, or replaced by a new one, whenever desired, and at very little expense; and such canceling die or type, G, may extend upward to the said cross-bar, B, and there be connected to the same by means of a screw, pin, or small bolt. In *such case there would not be any tube or pipe surrounding said canceling die or type, G.* The operation and effect produced would in such case of construction be the same.

The said postage-stamp canceling device, die or type, G, may be of any desired distance from the aforesaid postmarking or dating device or stamp, D, or it may be securely *fastened to the immediate side* of the said postmarking and dating part or stamp or device, D, by any convenient and suitable mechanical means.

"The said canceling die, type, or device, G, I prefer to use made of cork, as it will hold a much greater quantity of canceling ink upon and in the lower face thereof, and when it comes in contact with the printed surface of the postage-stamp, such surface will become somewhat and sufficiently broken by means thereof, and thus and thereby inject into or impregnate such broken surface with the said canceling-ink, whereby such postage-stamp, so operated upon and filled with such ink, cannot be sufficiently cleansed by any means as to enable it to be re-used, or used a second time, in fraud upon the postal revenue, without immediate detection of the same.

"Soft wood, used endwise, will answer nearly the same

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purpose. Still, long and continued use after the granting of my said patent, April 14, 1863, has fully proven the superiority of the cork for the canceling die or type used upon postage stamps as aforesaid. * * *

“I also construct my said postage-stamp canceling device, die, or type of *cast iron, steel, or other suitable metal*, substantially as shown at G', Figs. 5 and 6, and which may be secured to the said cross bar or piece, B, in like manner as the said tube or cylinder, C, Figs. 2 and 4, and which is done either by screw and nut where the same unites with the said cross-bar, or it may there be firmly fastened by means of suitably constructed and arranged pins or rivets, or the same may be soldered to the under side of said cross-bar or piece, B, or otherwise attached thereto. * * *

“The *aforesaid metal canceling device, die, or type, G*, Figs. 5 and 6, *may also be fastened or secured to the immediate side of the said postmarking device by any good and sufficient means*, substantially as hereinbefore described and set forth, in reference to the said device, C, or tube or cylinder, constructed to receive and contain the said type or die, G, Figs. 2, 3 and 4.

“Such metallic device, die, or type may also have upon its lower face or lower surface any suitable configuration deemed best to use for the purpose of canceling the postage-stamp in, with, or by any suitable ink at the same time, blow, and operation of the instrument or apparatus, as hereinbefore stated and set forth.

“In any and every case the postmarking of the letter, envelope, or packet, and the effacing or cancellation of the postage-stamp or letter-frank thereon representing value, are done at the same time and by the same blow or operation of the said several devices and parts, constructed and combined in the manner and by the means substantially as herein described and set forth.

“Both the postmarking and cancellation of the said postage-stamp are done with indelible or other and suitable ink, used for such cancellation or effacing of the postage-stamp.”

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Omitting much more of this verbose specification, containing, amongst other things, a dissertation on the supposed advantages and importance of the invention, we add the summary of the patentee's claims, which is as follows:

“What I claim and desire to secure by letters patent of the United States of America, is—

“1. The postage-stamp canceling device, cylinder, or tube, C, containing a die or type, G, made of cork, wood, *or other suitable material, or any equivalent for said cylinder or tube C, or for the said canceling die or type, G, whereby to efface, cancel, or destroy the postage-stamp with indelible or other ink, in the manner and for the purposes substantially as herein described and set forth.*

“2. The canceling device, cylinder, or tube, C, with cork or wood, *or any substantial equivalent* thereof, forming the die or type, G, therein, in combination with the cross bar or piece, B, and with the postmarking device, D, substantially as and for the purposes herein described and set forth.

“3. *The postmarking of letters, envelopes, and packets, and the cancellation of the postage-stamps* thereon with ink, at one and the same blow or operation of the instrument, in the manner and by the means substantially as herein described and set forth.

“4. *The employment and combination of a postmarking device, with a postage-stamp canceling device,* both being operated by one and the same handle, for the postmarking of letters, envelopes, or packets, and for the cancellation of the postage-stamps thereon with indelible or other ink, in the manner substantially as herein described and set forth.”

By these extracts from the specification, and the summary of claims, it appears perfectly obvious that the patentee has embraced in the reissued patent several matters of supposed invention different from and additional to the invention which formed the subject of the original patent. And it is principally, if not wholly, these new and addi-

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tional claims which the appellant James, as postmaster of New York, is charged with infringing.

In the first place, a new form of the canceling device is set forth and claimed, different from that described in the original patent, to wit: a canceling type or die attached directly to the cross-bar, without any tube or pipe surrounding and holding the same. This is not contemplated or hinted at in the original patent. The latter does suggest, it is true, that "The cork, rubber, or other elastic material may extend upward to the cross-bar, and there be connected to the same by a screw or pin-bolt, if desired;" but this suggestion had reference to a type inclosed, at the same time, by a surrounding cylinder, which formed the distinctive feature of the invention. The context shows that nothing more was intended by the suggestion than the extension of the type upward through the cylinder and fastening it in a particular way. The thought seems to have occurred to the patentee that it might be an advantage, under some circumstances, in addition to fastening the type in the cylinder by compression, to extend it through the cylinder and fasten it to the bar to secure it from any danger of falling out of the cylinder by becoming loose. Not a hint was given that the cylinder could be dispensed with. This was an after thought. The cylinder was clearly and distinctly set forth as a necessary constituent of the device, and an essential element in the combination of which the blotting device consisted.

The bearing which this new feature in the reissued patent has on the case, is evinced by the fact that one of the devices used for several years in the postoffice, which is complained of as an infringement of the patent, was a naked blotter made of cork, directly attached to the cross-bar, without any inclosing cylinder to support it; also by the fact that the other device used in the post office during the defendant's term of office consisted of an iron blotter di-

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rectly attached to the side of the postmarking stamp without any inclosing cylinder.

In our judgment, this addition to the patent was no part of the original invention, and could not lawfully be embraced in the reissue, and that the claim for it is, therefore, void. It is true that this particular feature is not made the subject of a distinct claim. But it is described as part of the invention, and would, probably, be included in the general and sweeping terms employed in the claims that are made. Regarded as not being a part of the original invention, those claims cannot stand if they are construed to include it; if they are construed so as not to include it, then the use of this form of device by the defendant cannot be adjudged an infringement of the patent.

Another new matter, forming no part of the original invention, but expressly disclaimed in the original patent, is the making of the blotter of cast-iron, steel, or other suitable material. The original specification, in various forms of expression, excludes such materials. The words "wood, cork, rubber, or any similar material" have this intention, as shown by the context. A claimed advantage is that "The said cork, rubber, or other elastic substance, as aforesaid, will render the said stamp capable of an easy and rapid use; for there being a yielding of the same when the blow is given, the operator will not tire as soon by a constant or continued use of the same *as though it were of solid metal*. The said blotter or type can be more easily repaired or replaced by a new one, at less expense *than if made of solid metal*." This language amounts to an express disclaimer of solid metal. The merit claimed for the invention was that the elastic materials proposed to be used for the blotter, and the use of which the patent throughout supposes possible by the support received from the surrounding cylinder were far superior to solid metal and other solid and inelastic substances. How, after this, it could be supposed that the use of solid metal as a material for the

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type-blotter was included in the invention, and that a claim for it was omitted through inadvertence and mistake, it is difficult to understand. Besides, as already seen, and will be again adverted to, the use of steel or other material that would answer the purpose had already been described and claimed in Norton's patent of 1862. We think that any claim in the reissued patent which can be fairly construed to embrace a blotter made of metal is void, and that the use of such a blotter by the defendant did not afford the patentee or the complainant any just ground of complaint.

In connection with this branch of the subject, it is observable that the patentee has added two new diagrams to his drawings for the purpose of exhibiting and illustrating this new ground of claim. This fact, though not decisive is strongly corroborative of the conclusion which we have reached on the subject.

The third addition in the reissued patent to the invention described in the original is, that of the *process* of stamping letters with a postmark and canceling the postage-stamp, at one and the same blow or operation of the instrument, in the manner and by the means described and set forth. Leaving out of view the history of the art prior to the invention claimed by the patentee, what possible pretence can there be for contending that the general process was part of the invention which formed the subject of the original patent? Suppose it be true that Norton was the first inventor of this process, was that process the invention which he sought to secure in the original patent? A patent for a process and a patent for an implement or a machine are very different things. *Powder Co. v. Powder Works*, 98 U. S. 136 [12 Am. & Eng. 201.] Where a new process produces a new substance, the invention of the process is the same as the invention of the substance, and a patent for the one may be reissued so as to include both, as was done in the case of Goodyear's vulcanized-rubber patent. But a process, and a machine for applying the process, are not necessarily one

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and the same invention. They are generally distinct and different. The process or act of making a postmark and canceling a postage-stamp by a single blow or operation, as a subject of invention, is a totally different thing in the patent law from a stamp constructed for performing that process. The claim of the process in the present case, however, is not so broad as this. It is for the process or act of stamping letters with a postmark and canceling the postage-stamp at one and the same blow or operation of the instrument, *in the manner and by the means described and set forth*. Perhaps this claim amounts to no more than a claim to the exclusive use of the patented instrument or device. If it is anything more, it is for a different invention from that described in the original patent. If it is not for anything more, the question is brought back to the instrument or device itself which forms the subject of the patent, and which has been already considered.

The last claim, to wit: "The employment and combination of a postmarking device with a postage-stamp canceling device, both being operated by one and the same handle for the postmarking of letters, envelopes, or packets, and for the cancellation of the postage-stamps thereon with indelible or other ink, in the manner substantially as herein described and set forth," may admit of two constructions. It may either amount to a claim for a combination of any kind of devices for stamping and blotting, or for a combination of the particular devices described in the patent. Inasmuch as these specified devices, as we have already shown, embrace new devices not described in the original patent, the claim is too broad in either of its aspects to be advanced in a reissue of that patent, unless the patentee was really the inventor of the general combination of such devices in a double stamp, and was entitled to add a claim therefor to such reissue. We have seen that his original patent was for a specific blotting device, and for the combination of such specific device with a post-stamping de-

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vice in the same instrument. Could he, in a reissue of the patent, lawfully make the broad claim of the combination of any and all devices for blotting and post-stamping, at one and the same time, in one and the same instrument? This would be, it is true, only adding a new claim to his patent, but greatly enlarging its scope and making it to embrace every kind of double stamp that can be conceived. Did he forget to insert this claim in his original patent? Was it omitted through accident or mistake? When we examine his original application, the changes it underwent, the careful exclusions as well as inclusions which it contained, and the particularity of the specific combination which he did claim, could he, after the lapse of more than a year (if we take the date of his first application for a reissue as the time for consideration,) be allowed to return to the Patent Office and pretend that he had inadvertently omitted the principal claim of the whole thing? If he was, or pretended to be, really the inventor of the entire double stamp, did not the patent, on its face, show that the invention was not secured to him, that it contained no such claim? And was not this omission obvious on inspection? The truth is, that when he made his original application, and got his original patent, all the documents show demonstrably that he did not intend it to embrace any such broad invention. That was not the invention he sought to secure. Having obtained a patent for his specific device and combination, if he afterwards wished to claim the general combination, and had not already abandoned it by taking a narrower patent, he was bound to make a new application for that purpose. Patentees avoid doing this when they can, and seek to embrace additional matters in a reissue, in order to supersede and get possession of the rights which the public, by lapse of time or other cause, have acquired in the meantime. It is for this very reason that the law does not allow them to take a reissue for anything but the same invention described and claimed in the original patent.

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But these broad claims in the reissued patent, if construed according to the latitude in which they are expressed, are void by reason of embracing inventions which had been patented both in England and in this country prior to the patentee's application for the original patent.

A stamp with a postmarking device and a blotting device combined in one instrument was described in an English patent, dated April 24, 1860, granted to one David G. Berri. As shown in the drawing, the postmarker and blotter were attached to one metallic plate, analogous and equivalent to the cross-bar described in Norton's patent, to the center of which plate the handle was attached, so that the instrument was equally balanced. The particular object of the patent was to secure a method of hinging the plate containing the types on to the fixed plate to facilitate the insertion and change of the types. But the double stamp is fully exhibited; and the patentee, in the specification, says: "In conclusion to the foregoing description, it may be here necessary to note that my improved date stamp may be employed, either in connection with the double or obliterating mark, as represented, or separately, in conformity with the usual requirements."

The same combination of postmarker and blotter in one instrument was also exhibited in Norton's own patent of August 9th, 1859. As he did not then reserve the process of stamping letters with such an instrument, nor the combination of a postmarker and a blotter, and did not make any simultaneous application therefor, he could not afterwards obtain a patent for such process and combination, but would be restricted to such particular combination or process as might be exhibited in a new device or apparatus.

We have already referred to this patent of 1859, and will here only quote from the specification, to show the construction of the stamp, and the scope which the patentee claimed his invention to possess. He says:

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“ *The blotter* (J) is fastened to the frame (B) upon one side thereof by the use of the shaft (D), one end of which passes through the upper part of the said blotter, and which is firmly secured to the said frame by means of the nut (E); or by using it for the nut in place of the said nut (E) as aforesaid. This blotter is then and thereby retained in a fixed and strong position by means of the screw (S), in connection with the said shaft (D), the blotter (J) or nut (E), and is for the purpose of cutting, inking, blotting, effacing, and effectually canceling the frank or postage-stamp, while, at the same time and operation, the name of the post-office, the year, the month, and the day thereof are given upon the envelope or letter at one side of the said frank or postage-stamp, and not upon it as now practiced, in order to efface and to cancel it under the operation of stamping, which unduly wears out the marking stamp, gives a bad and unintelligible impression, and is in direct violation of the rules or statute of the Post Office Department. This stamp may have another blotter like (J), which shall be upon the opposite side thereof, by the use of which the frank or postage-stamp would be cut, inked, blotted, effaced, and canceled upon any part of the letter or envelope where it may be placed. One blotter like (J), however, is believed to answer the required purpose. *This blotter (J) may be made of any size or shape, and of any material to answer the end or purpose sought to be obtained.* The face which receives the ink, and which comes directly upon the frank or postage-stamp, is grooved or cut, thereby leaving various projections, which have a sharp or knife-edge sufficient for each to cut entirely through the frank or postage-stamp, but not through the envelope immediately under the same, while at the same time the places thus cut are inked by the same sharp-edged projections or cutters on the face of the said blotter as aforesaid. The said blotter (J) should be made of the best kind of *cast steel*, and in such shapes as not to break any part thereof. The projections upon the

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face of the said blotter may be kept sharp and in cutting order by filing and sharpening them when dull."

The claim of this patent is as follows:

"Having thus set forth and described my invention, what I claim and desire to secure by letters patent of the United States, is—

"The blotter (J) connected or attached to the main part of any 'postoffice postmarking stamp' for the purpose of cutting and inking, blotting, and effacing so as to successfully cancel the frank or postage-stamp of any letter or any package at the same time and operation of marking or printing upon such letter or package the name of any postoffice, the year, the month, and the day of the month, substantially as and for the purpose herein set forth."

Another patent was taken out by Norton on the 16th of December, 1862, for a double stamp, containing a combination of the postmarker and blotter and the cross-bar connecting them, and to which they were attached. The drawings attached to this patent, exhibit exactly the same form of instrument which is exhibited and described in the drawings and specification of the patent sued on in this case. The blotter, however, instead of being confined to wood, cork, or other elastic material, was proposed to be made of "steel or other material which will answer the purpose," and to have on its face circular cutters, inclosed in circular rings, to cut the postage-stamp at the same time that it defaced it with ink. The invention is described in the specification as follows:

"The nature of my improvement consists in so constructing canceling stamps that the same shall cut the postage-stamp or any stamp similar thereto, without injury to the contents of the envelope or packet inclosed therein, and at the same time cause a heavy circular mark upon the inside, and one upon the outside of that part of the stamp or letter-frank canceled by the cutting device, so that said postage-stamp or letter-frank shall readily show cancellation in ink, and when re-

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moved from the letter or packet on which the same may have been canceled it shall be reduced to parts or pieces whereby a second use of the said stamp or frank is thus prevented, although it may have been previously cleaned by a chemical or other process.

“It also consists in the employment and combination of a canceling stamp with a cutting and inking device thereon, with a postmarking or rating stamp, so that the canceling of the letter-frank and the postmarking on the envelope or packet shall be effectually done by the means fully described hereinafter.

“To enable others skilled in the art to which my invention relates to make and use the same, I will here proceed to describe the construction and operation thereof, which is as follows, to wit: I construct the postmarking stamp (D), of steel or any material which will answer the purpose. (G) is the mortise or opening to receive the type for the month, the day of the month, and the year, around which is the name of the place where used. (E) is a screw for the purpose of holding the type in the said openings (G). This stamp is secured or firmly fastened to the block or cross-piece (B), Figs. 1, 2, and 3, by means of the screw (K), which is held in its place by means of the small screw (a), Figs. 1 and 2, which is placed near one side of the said screw (K), so as to prevent the same from becoming loose by reason of turning backwards.

After further directions as to the construction of the canceling stamp, he adds:

The cross-piece (B) is made of iron or steel, and in width the same as the diameter of the said rating and canceling stamp, and of any thickness required. The said canceling stamp (c) is securely fastened to the said cross-piece (B), and at any desired distance from the said rating stamp (D), as seen at Figs. 1, 2 and 3, and in the same manner as that of the said stamp (D). (H) is a screw-bolt or stem, the lower end of which is screwed into the center of the said

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cross-piece (B). The handle (A) is then screwed upon the said bolt or stem (H), and firmly upon the said cross-piece (B), thereby making a strong and reliable joining of the handle to the whole stamp."

The claim in this patent is, first, for the canceling stamp separately, and, secondly, as follows:

"I also claim the combination of the canceling stamp (c) and the postmarking or rating stamp (D) with the cross-piece (B), substantially as and for the purposes herein described and set forth."

It is hardly necessary to remark that the patentee could not include in a subsequent patent any invention embraced or described in a prior one granted to himself, any more than he could an invention embraced or described in a prior patent granted to a third person. Indeed, not so well; because he *might* get a patent for an invention before patented to a third person in this country, if he could show that he was the first and original inventor, and if he should have an interference declared.

Now, a mere inspection of the patents referred to above will show that after December, 1862, Norton could not lawfully claim to have a patent for the general process of stamping letters with a postmark and canceling stamp at the same time; nor for the general combination of a post-stamper and blotter in one instrument; nor for the combination of a post-stamper and blotter connected by a cross-bar; for all these things, in one or other specific form, were exhibited in these prior patents.

Any such claim, therefore, in the reissued patent of 1870 must be inoperative and void, as well because the thing claimed was anticipated in former patents, as because it would be for a different invention from that contained and described in the original patent. We may, therefore, dismiss from consideration the third and fourth claims of the reissued patent. If they are to be construed as being broader and claiming more than the original patent, they are void; if to be construed as claiming nothing more, they

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are simply redundant, because the first and second claims embrace all that was in the original, and more.

The case, then, upon the patent, is narrowed down to the claim of the specific device of the blotter as described and claimed in the original patent; and the combination thereof with the postmarking device in one instrument by means of the cross-bar. This being the case, it will be pertinent next to inquire whether the defendant used that device or combination. If he did not, it is unnecessary to pursue the subject further.

As we have already seen, the canceling stamp or device described in the patent, consisted of a cylinder, corresponding in length to the postmarking device, and containing a type of wood, cork, rubber, or other elastic material slightly projecting therefrom. It does not appear that this device was ever used by the defendant. The stamp used by him until January, 1876, had a blotter of cork, it is true; but it was not the specific device described in the patent, and to which the patent was restricted. The cork was not inclosed in a cylinder as demanded by the patent. It was a naked piece of cork directly attached to the cross-bar by a common wood screw, passing through a hole in the cross-bar, and driven into the cork, firmly holding it to the bar. This device, of course, was different from that which was patented. The only other stamp used by the defendant had a steel blotter, connected with the postmarker by a solid metallic plate or mass of metal, and having no cylinder. Neither of these devices infringed the complainant's patent, construed as we consider it must be in order to have any validity at all.

(b) The decree of the Circuit Court is reversed and the cause remanded, with directions to dismiss the bill of complaint (c).

This decision, in effect, disposes of all three appeals.

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(b) Otto substitutes for from b to c. "The decree of the Circuit Court will be reversed and the cause remanded, with directions to dismiss the bill of complaint, and it is so ordered."

Dissenting opinion.

Mr. Justice MILLER, dissenting:

As regards the right to a patent for an invention like this, which can be of use to no one but the Government of the United States, and which is, therefore, in effect, a contract by the United States that it will not use that which is essential to some of its most important operations without paying to the patentee whatever he may demand for the use of his invention, I have great doubt—a doubt which it would have been necessary to solve in this case if the majority of the court had believed the patent sued on valid.

In the opinion just delivered they have held, that while the original patent to Norton might have been valid for some purposes, the reissued patent is void because it is not for the same invention. In this view I do not concur.

The General Post Office and its branches had long been in search of an instrument which by one blow—one strike of the hand—would mark the name of the place where a letter was mailed and the time, and so deface the postage-stamp on the letter as would make it impossible to be used again.

This had been done by the use of a single die, which held the type indicating date, etc., and which was made to cover the stamp also, so that the date obliterated the stamp by covering it. For reasons not necessary to mention this did not answer, and it became desirable to have an instrument which at one stroke defaced the stamp and made beside, but apart from the stamp, the postmark date.

Many attempts to do this had been made with more or less success. Most of them failed because the handle which conveyed the power from the hand of the operator was so placed in regard to these two marking instruments that they did not strike with entire unity, in point of time, on all the space of the letter to be covered by the two instruments. In my opinion the record shows that Norton was the first man to accomplish this result by uniting these two marking instruments by a cross-bar between them, and placing the shank or handle common to them both so pre-

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cisely in the center between them on the cross-bar that the stroke brought the type and the obliterating device on to the surface of the paper precisely level, and with precision as to time, over the space which they were designed to cover.

This, I think, was the principal merit of his invention. Connected with it, however, and essential to it, was his device for obliterating the stamp. In his original patent this is described as a cylinder into which is fastened something which receives the indelible ink used to obliterate the stamp and which imparts it to the surface of the stamp by the blow or strike already mentioned. This, he said in his original patent, was made of wood, cork, rubber, or other suitable material.

It was discovered, by experience, afterwards, that iron was a more suitable material than wood, or cork, or rubber, and in the reissue of the patent, on which this action is founded, iron is mentioned as one of these suitable materials.

I do not think this should invalidate the reissue if the original patent was good. If iron was a suitable material it was covered by the original patent. If better than the materials specifically named, that did not exclude it from the original patent nor make the reissue void.

Nor do I concur in the opinion, that the combination of the printing and erasing instrument by a cross-bar and shank or handle, which brought the force employed in the stroke to act equally and simultaneously on all the surface to be impressed, was anticipated by any other patent or any other invention.

It would serve no good end to go into all the testimony with the elaborate care which characterizes the opinion of the court on these disputed points. I, therefore, content myself with stating the principal points in which I differ with that opinion.

Notes and citations.

Notes:

1. Government cannot use patent without compensation:

United States v. Burns, 12 Wall. 246 [8 Am. & Eng. 458.]

Cammeyer v. Newton, 94 U. S. 225 [11 Am. & Eng. 98.]

United States v. McKeever, 23 O. G. 1530.

2. Government sued in Court of Claims:

United States v. Burns, 12 Wall. 246 [8 Am. & Eng. 458.]

United States v. McKeever, 23 O. G. 1530.

Hollister v. Benedict Mnfg. Co., 113 U. S. 59.

3. Reissue void for want of identity with original: See,

Miller v. Brass Co., 104 U. S. 350, notes 1 to 7 inclusive,
[p. 303 *ante*.]

6. A machine cannot be reissued to cover a process:

Heald v. Rice, 104 U. S. 356 [p. 460 *post*.]

Wing v. Anthony, 106 U. S. 142.

Eachus v. Broomall, 115 U. S. 429.

Patent in suit:

No. 38,175. Norton, M. P. April 14, 1863. Reissue No.
4,143. October 4, 1870. Letter-Stamp.

OTHER SUITS ON SAME PATENT:

Shavor's Case, 1868. 4 Ct. of Claims, 440.

Notes and citations.

Campbell v. James, 1879. 17 Blatch. 42; 4 Ban. & Ard. 456; 18 O. G. 979; 8 Reporter, 455.

Campbell v. James, 1880. 18 Blatch. 92; 5 Ban. & Ard. 354; 2 Fed. Rep. 338; 18 O. G. 1111; 10 Reporter, 9.

Campbell v. James, 1880. 18 Blatch. 196; 5 Ban. & Ard. 369; 18 O. G. 300.

Campbell v. James, 1880. 5 Fed. Rep. 806; 5 Ban. & Ard. 630; 10 Reporter, 686.

Secombe v. Campbell, 1880. 18 Blatch. 108; 5 Ban. & Ard. 429; 2 Fed. Rep. 357; 9 Reporter, 708.

Secombe v. Campbell, 1880. 5 Ban. & Ard. 632; 5 Fed. Rep. 804; 10 Reporter, 686.

Campbell v. Ward, 1882. 12 Fed. Rep. 150; 14 Reporter, 107.

Cited:

IN SUPREME COURT IN:

Heald v. Rice, 1882. 104 U. S. 737; Bk. 26 L. ed. 910.

Johnson v. Flushing & North Side R. R. Co. 1882. 105 U. S. 539; Bk. 26 L. ed. 1162.

Wing v. Anthony, 1882. 106 U. S. 142; Bk. 27 L. ed. 110.

Fink v. O'Neil, 1882. 106 U. S. 282; Bk. 27 L. ed. 196.

Moffitt v. Rogers, 1882. 106 U. S. 423; Bk. 27 L. ed. 76.

Clements v. Odorless Excavating Co., 1884. 109 U. S. 641; Bk. 27 L. ed. 1060.

McMurray v. Mallory, 1884. 111 U. S. 97; Bk. 28 L. ed. 365.

Mahn v. Harwood, 1884. 112 U. S. 354; Bk. 28 L. ed. 665.

Torrent & Arms Lumber Co. v. Rodgers, 1884. 112 U. S. 659; Bk. 28 L. ed. 842.

Hollister v. Benedict & Burnham Mnfg. Co., 1885. 113 U. S. 59; Bk. 28 L. ed. 901.

Coon v. Wilson, 1885. 113 U. S. 268; Bk. 28 L. ed. 963.

White v. Dunbar, 1886. 119 U. S. 47; Bk. 30 L. ed. 203.

Notes and citations.

Yale Lock Co. v. James, 1888. 125 U. S. 447; Bk. 31 L. ed. 807.
United States v. Palmer. 1888, 128 U. S. 262; Bk. 32 L. ed. 442.

IN CIRCUIT COURTS IN :

Combined Patents Can Co. v. Lloyd, January, 1882. 11 Fed. Rep. 149.

Streit v. Lauter, 1882. 11 Fed. Rep. 309.

Sheriff v. Fulton, March, 1882. 12 Fed. Rep. 136.

Tyler v. Galloway, April, 1882. 20 Blatch. 445.

MacKay v. Jackman, April, 1882. 20 Blatch. 466; 12 Fed. Rep. 615.

Steam Gauge & Lantern Co. v. Miller, May, 1882. 11 Fed. Rep. 718.

Brainard v. Cramme, June, 1882. 20 Blatch. 530.

Searls v. Bouton, June, 1882. 12 Fed. Rep. 874.

Consolidated Oil Well Packer Co. v. Eaton, July, 1882. 12 Fed. Rep. 865.

New v. Warren, July, 1882. 22 O. G. 587.

Newton v. Furst & Bradley Mnfg. Co., November, 1882. 11 Biss. 413; 14 Fed. Rep. 465; 15 Reporter, 196.

Fay v. Preble, December, 1882. 14 Fed. Rep. 652; 11 Biss. 422.

Doane & Wellington Mnfg. Co. v. Smith, December, 1882. 15 Fed. Rep. 459.

Forehand v. Porter, 1883. 15 Fed. Rep. 256.

Cote v. Moffitt, February, 1883. 15 Fed. Rep. 345.

New York Belting & Packing Co. v. Sibley, March, 1883. 15 Fed. Rep. 386.

Poage v. McGowan, March, 1883. 15 Fed. Rep. 398.

Andrews v. Hovey, May, 1883. 5 McCrary, 198; 16 Fed. Rep. 387; 26 O. G. 1011.

Fetter v. Newhall, August, 1883. 17 Fed. Rep. 841.

Dryfoos v. Wiese, January, 1884. 22 Blatch. 19; 19 Fed. Rep. 315.

Vermont Farm Machine Co. v. Marble, January, 1884. 19 Fed. Rep. 307; 22 Blatch. 32.

Notes and citations.

Yale Lock Mnfg. Co. v. James, July, 1884. 22 Blatch. 294; 20 Fed. Rep. 903.

Wooster v. Handy, July, 1884. 22 Blatch. 307; 21 Fed. Rep. 51.

Stutz v. Armstrong, July, 1884. 20 Fed. Rep. 843.

Baltimore Car-Wheel Co. v. N. Baltimore Passenger Ry. Co., July, 1884. 21 Fed. Rep. 47.

Atlantic Giant Powder Co. v. Hulings, July, 1884. 21 Fed. Rep. 519.

Matthews v. Iron Clad Mnfg. Co., August, 1884. 22 Blatch. 427; 21 Fed. Rep. 641.

Scrivner v. Oakland Gas Co., September, 1884. 10 Sawyer, 390; 22 Fed. Rep. 98.

Odell v. Stout, October, 1884. 22 Fed. Rep. 159.

Railway Register Mnfg. Co. v. Broadway & Seventh Avenue R. Co., December, 1884. 22 Fed. Rep. 655.

Hammond v. Franklin, January, 1885. 23 Blatch. 77; 22 Fed. Rep. 833.

Electric Gas Lighting Co. v. Smith, March, 1885. 23 Fed. Rep. 195.

Phillips v. Risser, June, 1885. 26 Fed. Rep. 308.

Hoe v. Kahler, October, 1885. 23 Blatch. 354; 25 Fed. Rep. 271.

Hill v. Commissioner of Patents, October, 1885. 33 O. G. 757.

Mathews v. Flower, October, 1885. 25 Fed. Rep. 830.

Railway Register Mnfg. Co. v. Broadway & Seventh Avenue R. Co., February, 1886. 26 Fed. Rep. 522.

Tubular Rivet Co. v. Copeland, February, 1886. 26 Fed. Rep. 706.

Eastern Paper Bag Co. v. Standard Paper Bag Co., February, 1887. 30 Fed. Rep. 63.

Eastern Paper Bag Machine Co. v. Standard Paper Bag Co., February, 1887. 30 Fed. Rep. 68.

Soloman's Case, June, 1887. 22 Ct. of Claims, 335.

Holmes Electric Protective Co. v. Metropolitan Burglar Alarm Co., December, 1887. 33 Fed. Rep. 254.

Grant v. Walter, May, 1889. 47 O. G. 1220.

Notes and citations.

IN DECISIONS OF COMMISSIONER OF PATENTS IN:

Pfaudler, October, 1882. 22 O. G. 1881.
Howe, April, 1883. 24 O. G. 1090.
Rohn, October, 1883. 25 O. G. 1190.
Derby, March, 1884. 26 O. G. 1208.
Holt, April, 1884. 29 O. G. 171.
Ransom, May, 1884. 39 O. G. 119.
Blythe, July, 1884. 30 O. G. 1321.
Roberts, June, 1887. 40 O. G. 572.
Mahnkin, August, 1887. 40 O. G. 915.
Herr, October, 1887. 41 O. G. 463.
Ex parte Tainter, March, 1889. 47 O. G. 135.

IN STATE COURTS IN:

Hill v. Commissioner of Patents, October, 1885. 1 Central R. 91.

IN CANADIAN COURTS IN :

Withrow v. Malcolm, September, 1882. 6 Ontario Rep. 12.

IN TEXT-BOOKS :

2 Abb. Pat. Laws, 1886. pp. 7, 31, 192, 194.
Walker on Pats., 1883. pp. 101, 107, 161, 287, 364.

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Syllabus.

JOHN J. VINTON ET AL., APPELLANTS, v. HOMER
HAMILTON ET AL.

104 (14 Otto) U. S. 485-498. Oct. Term, 1881.

[Bk. 26, L. ed. 807 ; 21 O. G. 557.]

Argued December 6, 7, 1881. Decided January 9, 1882.

*Particular patent construed. Prior knowledge and use. Novelty.
Absence of invention.*

1. Letters patent, No. 143,600, granted October 14, 1873, to John J. Vinton, for an Improvement in the Manufacture of Iron from Furnace-Slag, *held*, to be invalid in view of facts developed by the testimony as to knowledge and use of the invention therein claimed by others prior to the invention or discovery of the patentee; *construed* to be, in a process of reducing slag, the application to a cupola-furnace of the cinder-notch, and *held*, in view of the previous use in the blast furnace of the cinder-notch to accomplish the same end, devoid of invention. When applied to a cupola-furnace the cinder-notch performed the same function in the same way. (p. 400.)

Appeal from the Circuit Court of the United States for the Northern District of Ohio.

Statement of the case by Mr. Justice Woods:

The bill of complaint alleged that the defendants were infringing certain letters patent, dated October 14, 1873, granted to the complainant, John J. Vinton, for an improvement in the manufacture of iron from furnace slag, and prayed for an injunction to restrain them from further infringement and for damages and an account of profits.

The answer of the defendants denied that Vinton was the original or first inventor or discoverer of the improvement in the manufacture of iron from furnace slag or from the slag of blast or smelting furnaces, set out in his patent, and denied infringement.

Upon final hearing in the circuit court the bill was dismissed, because the process described in complainant's let-

Statement of the case.

ters patent was known and in common use before the complainant's application for his letters patent, and the same were, therefore, null and void.

The complainants have, therefore, appealed the case to this court.

The specifications of the letters patent declare as follows:

“My invention relates to the production of cast iron from the slag or refuse of the smelting or blast furnace. Heretofore a large percentage of good metallic iron has been thrown away with the slag and become lost to commerce, so far as its use as metallic iron is concerned. This is more particularly the case with rich ores, such as the Missouri and lake ores, which from their nature flux imperfectly in the ordinary smelting furnace. When imperfectly fluxed the slag assumes a thick consistency, and cools with a general greyish color, and though the presence of metal in it cannot be detected by the eye, yet the slag will be found to be of comparatively great specific gravity and, in fact, contains a very large percentage of good metallic iron, often as great as the amount of metal reduced from the ore in the process of smelting.

To reduce this metal from the heavy slag of the smelting furnace, and thereby increase the production of iron from the same amount of ore, is the object of my invention. To accomplish the desired result I employ a cupola furnace, but furnaces specially adapted to the purpose may be constructed and conveniently used in connection with the blast furnaces where the iron is smelted.

The heavy slag is first pulverized or broken up into small pieces, or it may be made granulous or spongy by passing water or air through it when in a molten state, or in any of the well-known ways. A bed of coke or other suitable material is first placed in the cupola and on the top of the coke a small quantity of scrap or other oxidized iron (preferably scale or black oxide of iron) is sprinkled.

The slag to be operated on is then introduced as evenly as possible on the top of the coke and iron oxide, and on the

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top of the slag I sprinkle a small quantity of limestone broken up into small pieces, then a layer of coke, followed with scrap and scale slag and lime as before alternately until the whole cupola is charged. The fuel is then ignited, and when the fire is above the *tuyères* the blast is turned on to the full. Owing to the presence of the iron oxides, the heat is very great when brought in contact with the slag, and the latter is speedily reduced, and as the operation goes on fresh charges of the materials are supplied from the top of the cupola, provision being made for the passage of the remaining slag from the furnace at a point below the *tuyères*.

In this way it will be seen that the process is continuous, and the furnace is not permitted to get cool.

The charge is made up in about the following proportions, but may be slightly varied as occasion requires: after the furnace is in operation, first, three bushels of coke; second, fifty pounds iron oxide (scrap or scale;) third, eight hundred pounds slag; fourth, one-fourth of a bushel of limestone, thrown into the cupola in succession, and from time to time as required.

When there is much sulphur in the iron a small quantity of the black oxide of manganese may be blown in through the *tuyères*, and salt or litharge, or a mixture of any two or all three of these ingredients, may be used in this manner with good effect. The iron thus obtained is run into molds in the usual way.

What I claim as my invention, and desire to secure by letters patent, is the herein described method of reducing iron from the slag or refuse of blast or smelting furnaces, substantially as set forth."

Mr. Andrew McCallum, for appellants:

The defendants allege that the heavy slag produced by smelting furnaces is an old and well-known material.

We do not deny that, but that is not the question here.

The knowledge that there was iron in this slag in large quantities may have existed before—the fact may have been

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generally known by all furnace men—but how to get the iron out of the slag was not known to them till after Vinton showed them how to do it.

Vinton does not claim to be the first to use coke as a fuel and limestone as a flux, nor does he claim the use of these materials in connection with a blast or smelting furnace for the purpose of reducing the iron from this slag material, but he does claim to have been the first to invent the method of recovering the iron from this slag material by means of the ordinary fuel and fluxing material in a cupola furnace. The testimony shows that the two methods are entirely distinct, so that the one would not necessarily suggest the other.

“It is settled law that there may be a patent for the practical application of a known thing to produce a particular effect.

There may be a valid patent for a new combination of materials, previously in use for the same purpose, or, even for a new method of applying such material.

If the result produced is either a new article, or a better article, or a cheaper article to the public than that produced before by the old method, it is an invention or manufacture intended by the statute, and may well become the subject of a patent.”

Curtis on Pats., p. 79; *Crane v. Price*, Web. Pat. Cas. 393 [3 Am. & Eng. 437.]

There can be no question that, by the Vinton method, iron is produced more cheaply and more quickly than it can be obtained by the use of the blast furnace.

It, therefore, comes within the rule of a patentable invention, so far as any anticipation through the blast furnace is concerned.

That Vinton was the first to use a foundry cupola with a cinder-notch, I have no doubt, because the necessity for such contrivance did not exist until he had perfected his invention, which was the method described for obtaining iron from this slag material in a foundry cupola, an essential part

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of that method being the flow of the remaining slag from the furnace.

Say that Vinton did get the idea of the cinder-notch from the blast furnace, and the idea of intense heat with small outlay of fuel from the foundry cupola. Did he invent nothing when he combined these ideas, and thereby evolved a new creation?

If, then, he has produced something *new* and *useful*, that something possesses all the elements necessary on which to base the grant of valid letters patent.

The testimony regarding the alleged prior use is conflicting and unsatisfactory. The statements of the witnesses regarding alleged facts and circumstances cannot be reconciled.

“In a question as to the originality of an invention, where one party has a patent, the proof of want of originality must be specific and decisive to overthrow such patent.”

Troy Iron & Nail Factory v. Corning, 1 Blatch. 472.

“If a reasonable doubt exists as to the truth of the evidence adduced to impeach the novelty of the invention, the presumption in favor of the patentee must prevail over it.”

Crouch v. Speer, 6 O. G. 187; Hawes v. Antisdel, 8 O. G. 685; Stilwell v. Cincinnati Gas Co., 7 O. G. 829.

The alleged prior use by the Beaver Falls Foundry Association, supposing it to be proved, which we expressly deny, is not a public use under the statute.

“By knowledge and use the legislature meant knowledge and use accessible to the public.” Cahoon v. Ring, 1 Fish. 410; Gayler v. Wilder, 10 How. 496 [5 Am. & Eng. 188.]

The furnace with which Hamilton says he experimented in March, 1873, did not have a cinder-notch or any provision for the passage of slag. It was not until after Vinton had completed his invention and applied for his patent that we find him actually engaged in the business of making iron from this material, and when he does go to work we find him using this essential part of the Vinton method.

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‘He is the first inventor in the sense of the patent law, and entitled to a patent for his invention, who first perfected and adapted the same to use; and it is well settled that until the invention is so perfected and adapted to use, it is not patentable under the patent law.’”

Washburn v. Gould, 3 Story, 122; Seymour v. Osborne, 11 Wall. 516 [8 Am. & Eng. 290;] Johnson v. Root, 2 Cliff. 123; Gayler v. Wilder, 10 How. 498 [5 Am. & Eng. 188;] Parkhurst v. Kinsman, 10 Blatch. 494; White v. Allen, 2 Cliff. 230.

Mr. Thomas W. Sanderson, for appellees:

I have every confidence that the court will find from the evidence, *first*, that the material in question has been publicly and notoriously used, in, and by means of blast furnaces, for the purpose of making pig iron, for more than ten years, at least, prior to Vinton's patent; and *second*, that the *process* and *method of use*, therein, and thereby, was precisely the same process and method described in Vinton's patent, and that he merely *substitutes* one machine (the cupola) for another, (the blast furnace,) leaving the *process* the same. If these two things are established, it is certainly an end of the case.

Every blast furnace has a cinder-notch in it for the same purpose precisely that Vinton makes one in the cupola, that is, to permit the molten cinder which floats on the top of the iron to run off. That is shown by the evidence.

What is its significance? Clearly this, that a notch cut in a receptacle for melting iron, which when melted throws off molten cinder, has been in public use since iron was first manufactured; that such contrivance is old, and cannot be the subject of invention, in connection with any appliance used to melt iron, or iron ores.

We find from the evidence that the old receptacle for melting slag, viz: blast furnaces, had cinder-notches; that the new receptacles (cupolas) substituted by Vinton are constructed for the purpose of their ordinary uses without

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that contrivance; and in order to use them when substituted, it is necessary to construct in them the cinder-notch, in precisely the same way, for the same purpose, and with precisely the same result, as in the old receptacle, and that when that is done, each and every step and element of the *process* and method is the same. Is this invention?

There is no witness who testifies in support of the claim of cheapness, who says anything more than that *poor pig iron can be made in a cupola from slag, cheaper than good pig iron can be made in a blast furnace.*

The only point the counsel makes in this matter is, that more bad and unmerchantable pig iron can be made by the cupola in a given time than can be made by the blast furnace in the same time. This I concede; but those who manufacture pig iron never had any desire to make a poor article; and any one who patents a process which enables them to do so, at a rapid rate, is not conferring any benefit either upon the manufacturers or the public.

Mr. Justice Woods (a) delivered the opinion of the court:

It is matter of general knowledge that pig iron is made from iron ore in a blast or smelting furnace; that to secure this product the furnace is charged, first, with a layer of coke or charcoal, then with a layer of iron ore, mixed with broken limestone, and so on in alternate layers until the proper quantity of these materials is placed in the furnace. The fuel is then ignited and, for the purpose of increasing the heat, streams of air are forced into the furnace by means of blast pipes, the nozzles of which, called *tuyères*, are inserted in openings in the walls of the furnace, usually from four to six feet above its bottom.

The limestone is used merely as a flux. The ore under this process undergoes a chemical change, and iron is formed and sinks in a molten state to the bottom of the hearth, by

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which is meant not only the bottom of the furnace, but its sides as high up as the foot of the boshes. The refuse left after the melted iron has dropped into the hearth, is also in a molten state, and being lighter than the iron, floats on its top. This is indifferently called "cinder" and "slag." About three or four times in every twenty-four hours the melted iron is drawn from the furnace. This is accomplished in the following manner: the furnace is constructed with two holes, one called the iron and the other the cinder-notch. The iron-notch is made at the bottom of the hearth. The cinder-notch is higher up the side of the furnace, just below the level of the *tuyères*; so high that the cinder can be drawn through it without letting off the molten iron. These holes are kept habitually closed with clay or other similar material. At frequent intervals and always just before drawing off the molten iron, or making a cast, as the iron-mongers call it, the cinder-notch is opened, and the cinder or slag is allowed to escape, and is carried away from the furnace in a trough made of moistened sand. The cinder-notch is then closed and the iron notch is opened, and the molten iron is drawn off through a sand trough, and conducted into molds made in sand-beds, called the sow and pigs, where it is allowed to cool. The result is the pig iron of commerce.

In the meantime the furnace is supplied with constant charges of fuel and ore, mixed with limestone, in alternate layers, dumped in from the top, and this process is kept up without cessation for months and sometimes for years.

The sand trough which connects the pig-beds with the iron-notch is usually larger and deeper, but more elevated, than the sow or general gutter which conducts the iron into the molds or grooves in the pig-beds. When the metal is first let into the trough it accumulates so as to fill it nearly to the brim. As the flow from the iron notch decreases, the iron, and a small quantity of cinder or slag, which has been chilled by coming in contact with the cold surface of

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the trough, adhere to its sides and bottom. When the molten iron on the hearth is about exhausted, the blast is increased, and the material left on the hearth is blown out through the iron notch into the sand trough. This also cools in the trough, and thus is formed what are known as trough runners, consisting of iron and slag, which have been forced through the iron notch by letting on the blast, as just mentioned.

A cupola furnace is one used for melting pig iron for the purpose of casting it into useful forms and articles. It constitutes part of the equipment of a foundry. In shape it is generally a hollow cylinder. This iron is melted by substantially the same process as the ore in a blast furnace. The cupola furnace has an iron notch but no cinder-notch, because there is generally so little cinder or slag in pig iron, as to render such an opening unnecessary.

In order to reach the merits of the controversy it is necessary to obtain a definite idea of what, if anything, the appellants are entitled to under their (*b*) patent.

The specifications are ambiguous in respect to the particular kind of slag which is to be used in the process therein described; that is to say, whether it is the slag drawn off through the cinder-notch, or the runners which are left in the trough through which the molten iron is discharged from the iron notch of a blast furnace. It appears, however, from the evidence that the use of the latter only is contemplated, the former containing such a very inconsiderable quantity of iron as to be valueless.

We observe, in the first place, that the patent cannot be held to cover the discovery that the slag, which is to be used in the process described in the specifications, contains so large a percentage of good metallic iron that it can be profitably extracted by again smelting it.

The evidence shows beyond controversy that for many years before September 18, 1873, the earliest date assigned

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to the discovery or invention of the complainant, (c) it had been well and generally known that the trough runners contained a large proportion of metallie iron, and they were broken up and re-smelted in blast furnaces. They were thrown into the furnace with scrap-iron and iron ore, and smelted in the same manner. It was formerly a notion among old-fashioned furnace men, that the use of this material injured the furnace, and deteriorated the quality of the iron produced. But this conceit had been exploded long before the date of appellant's (d) patent, and the runners and other heavy slag were used habitually in many blast furnaces, as above stated.

Secondly. (e) The appellant cannot claim as any part of his invention the use of a cupola furnace for the purpose of re-smelting trough runners and heavy slag. (f) The evidence in the record shows that as early as the year 1844, at the Jackson furnace, in Venango county, Pennsylvania, which was a blast furnace, a cupola furnace was erected and used for the purpose of smelting heavy slag, from which was manufactured plow-points and hollow-ware, such as skillets, pots, and Dutch ovens. Sometimes the product was made into pig iron. This cupola furnace was thus used for three or four years. The fact of such use was public; no effort was made to keep it secret, and it was known, in the language of the witnesses, "all around the furnace."

The testimony of Robert Paisley, Wm. J. Shaner, and Thomas W. Kennedy, which is found in the record, shows that the Beaver Falls Co-operative Foundry Association, in April, 1872, made the experiment of using slag and runners in their cupola furnace, and the experiment proving successful, the runners, as early as August, 1872, were pro-

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(c) Otto substitutes for "the complainant" "Vinton"

(d) Otto substitutes for "appellant's" "his"

(e) Otto substitutes for from e to f. "The use of the cupola furnace for the purpose of re-smelting trough runners and heavy slag cannot be claimed as any part of Vinton's invention."

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cured by the car-load, and mixed with pig iron and run into stove-plates. In this way 58 or 60 tons of runners were used prior to October 1, 1873, the date of appellant's patent.

This use of heavy slag and runners was open and public. No one was excluded from the foundry where the work was carried on. Anyone was at liberty to enter and see what was going on, and persons not interested in the furnace, among them the witness, Thomas W. Kennedy, did so. No injunction of secrecy was imposed on them. It is true the operatives at the furnace, who were all stockholders of the association, said nothing about the use they were making of trough runners, because, as they said, if it was a good thing they wanted to keep it to themselves, but they took no steps to keep it a secret, except that they did not talk about it. In fact, it was at the suggestion of Kennedy that the Beaver Falls Co-operative Foundry Association made the experiment of melting runners and heavy slag in their cupola furnace.

After the experiment made by the Beaver Falls Co-operative Foundry Association, in April, 1872, had proved successful, Kennedy, in August, 1873, furnished the defendant, Hamilton, with a quantity of trough runners to be smelted in his cupola furnace, and before October 1, 1873, had sold to foundrymen not less than one hundred tons of the same material to be used for the same purpose.

In fact, the record shows that Kennedy, more than a year before the date of appellant's (*g*) patent, revived the practice of smelting trough runners and heavy slag in a cupola furnace. As early as the spring of 1872 he declared to the defendant, Hamilton, Thomas Struthers, and others, the feasibility of the process, and suggested to Struthers that they ought to take out a patent for it. But Struthers said that unless they could get up some new way of extracting the iron, it would not be patentable, and that was the conclusion they came to after talking the matter over. But

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(*g*) Otto substitutes for "appellant" "Vinton" throughout the case.

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Kennedy at once, in the spring of 1872, commenced buying up the trough runners from the blast furnaces, and selling them to foundrymen for use in cupola furnaces.

It is, therefore, abundantly shown in the record that before the date of complainant's patent, or of his invention, the smelting of trough runners and other heavy slag in cupola furnaces was practiced and well known.

Thirdly. The method of making slag granulous or spongy by passing water or air through it when in a molten state, is not new nor is it claimed to be new. Besides, there is no evidence that this process is used by the appellees.

Fourthly. The method of charging the cupola furnace and of smelting the slag as described in the specification of appellant's patent, is as old as the art of making pig iron, except, perhaps, the sprinkling of scale or black oxide of iron on the top of the coke, and this is not done by the appellees.

Fifthly. The appellant does not claim that his invention covers a cupola furnace. A review of the case shows, therefore, that appellant did not first discover the value of furnace runners or heavy slag for re-smelting, that he was not the first to smelt them and use them for running into pigs or castings, either in a blast furnace or a cupola furnace, and that there is nothing new in his process of smelting which is used by the appellees.

All, therefore, that is left for his invention to cover, and which appellant can claim as infringed by the appellees, is the employment of a cinder-notch or hole in a cupola furnace to draw off the cinder when the furnace is employed in smelting furnace runners or heavy slag. But if the testimony of unimpeached and uncontradicted witnesses is to be believed, as early as June, 1872, at Beaver Falls, Pennsylvania, a cinder-notch was used by the Beaver Falls Co-operative Association in a cupola furnace when employed in smelting furnace runners. The notch was put in the cupola at the suggestion of the witness, Thomas W. Kennedy, who was not a member of

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the association, but who, being the owner of a blast furnace, was selling to it furnace runners to be re-smelted and used for making castings. He testifies to the fact distinctly and clearly, and designates the part of the cupola where the notch was placed, namely: "between the *tuyères* at the back of the cupola to draw off the slag." He is fully corroborated by the witness, W. J. Shaner, who was a member of the association, and whose business was to do the smelting.

This use of the cinder-notch in the cupola was public. No effort was made to exclude spectators from the foundry or to conceal the notch. The invention, therefore, of a cinder notch in a cupola furnace, if it was an invention at all, was made by Thomas W. Kennedy, fifteen months before the appellant, according to his own testimony, ever conceived the idea; and Kennedy, during all that time, allowed it to be used by others, without any injunction of secrecy or any restriction or limitation, in a foundry which was open to all who might choose to visit it, and which was visited by many spectators not concerned in its operations.

But even if the application of a cinder-notch to a cupola furnace was first made by the appellant, the question remains whether, standing alone, it implies invention and is patentable.

We think this question must be answered in the negative. Neither a cupola furnace nor a cinder-notch is new. The use of a cinder-notch for drawing off cinders from a blast furnace is as old as blast furnaces themselves. The function which the cinder-notch performs in the process covered by the appellant's invention is precisely the same for which it is used in a blast furnace. In smelting slag in a cupola furnace, it was found that the molten cinder accumulated and floated on the top of the molten iron. The application to a cupola furnace, for the purpose of drawing off the cinder, of the cinder-notch used in the blast furnace to accomplish the same end, would occur to any practical man. When applied to a cupola furnace the same function was performed in the same

Notes and citations.

way by the same means. In making this application there was no invention. *Pearce v. Mulford*, 102 U. S. 112 [12 Am. & Eng. 495.]

We are of opinion, therefore, that the application of a cinder-notch to a cupola furnace for the purpose designated is neither patentable nor new, and that all the other parts of the process and appliances covered by appellant's patent were old, and well known long before the date of his alleged invention and the patent therefor. The complainant was not the first inventor, either in fact or in law, of the discovery or invention described in his letters patent. *The patent is, therefore, void, and the decree of the Circuit Court dismissing the bill was right, and must be affirmed.*

Mr. Justice MATTHEWS did not sit in this case and took no part in its decision.

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Notes :

1. Double use:

Hotchkiss v. Greenwood, 11 How. 248 [5 Am. & Eng. 240.]

Phillips v. Page, 24 How. 164 [7 Am. & Eng. 97.]

Tucker v. Spaulding, 13 Wall. 453 [8 Am. & Eng. 474.]

Brown v. Piper, 91 U. S. 37 [10 Am. & Eng. 272.]

Roberts v. Ryer, 91 U. S. 150 [10 Am. & Eng. 302.]

Reckendorfer v. Faber, 92 U. S. 347 [10 Am. & Eng. 373.]

Slawson v. Railroad Co., 107 U. S. 649.

Stephenson v. Railroad Co., 114 U. S. 149.

Patent in Suit :

No. 143,600. Vinton, J. J. October 14, 1873. Manufacture of Iron from Slag.

Cited :

IN SUPREME COURT IN:

McNab & Harlan Mnfg. Co. v. Thompson, 1885. 114 U. S. 1; Bk. 29 L. ed. 76.

Notes and citations.

Stephenson v. Brooklyn Cross Town R. Co., 1885. 114 U. S. 149;
Bk. 29 L. ed. 58.

Western Electric Mnfg. Co. v. Ansonia Brass & Copper Co., 1885.
114 U. S. 447; Bk. 29 L. ed. 210.

Clark Pomace Holder Co. v. Ferguson, 1886. 119 U. S. 335; Bk.
30 L. ed. 406.

IN CIRCUIT COURTS IN:

Leonard v. Lovell, December, 1886. 29 Fed. Rep. 310.

IN TEXT-BOOKS:

Walker on Pats., 1883, p. 19.

[illegible]

Syllabus.

MATTHEW GOTTFRIED, APPELLANT, v. FRED-
ERICK MILLER.*

104 (14 Otto) U. S. 521-530. Oct. Term, 1881.

[Bk. 26, L. ed. 851; 21 O. G. 711.]

Affirming *Ibid*, 10 Fed. Rep. 471.

Submitted January 4, 1882. Decided January 23, 1882.

Assignment of patent requires no seal. Corporation. Contract executed by agent of corporation. Particular assignment construed. Stockholder's liability. Sale by joint owner.

1. Assignments of patents are not required to be under seal. The statute R. S., sec. 4898, simply provides that "every patent or any interest therein shall be assignable in law by an instrument in writing." (p. 420.)
2. A corporation may bind itself by a contract not under its corporate seal when the law does not require the contract to be evidenced by a sealed instrument. (p. 420.)
3. Such contracts may be executed by an agent, and the rule is that the agent should in the body of the contract name the corporation as the contracting body, and sign as its agent or officer. (p. 420.)
4. An assignment therefor, purporting on its face to be the contract of the corporation therein named, declaring that the consideration has been received by the company, that it is executed in pursuance of a resolution passed by the company and purporting to be signed by Smith, president of the company, who declares that he signs it as the act of the company, is the transfer of said company and not the personal deed of Smith. (p. 421.)
5. The fact that a person holds stock in a company gives him no title to its property, and the attachment of such stock in the hands of a stockholder for a personal debt of the stockholder does not in any way encumber the property of the company. (p. 422.)
6. Where Stromberg sold to Miller a machine and the right to use

*See Explanation of Notes, page III.

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the same, and Stromberg subsequently acquired an interest in the patent covering the machine, *held*, that such sale was a license to Miller to use the machine so far as Stromberg could grant a license. (p. 422.)

7. The question raised, but not determined, whether the sale of a patented machine by a joint owner of the patent, who has acquired only a part interest, binds the other joint owners. (p. 423.)

[Citations in the opinion of the court:]

- Bank of Columbia v. Patterson, 7 Cranch, 299. p. 420.
Fleckner v. Bank, 8 Wheat. 338. p. 420.
Andover Corporation v. Hay, 7 Mass. 102. p. 420.
Dunn v. St. Andrew's Church, 14 Johns. 118. p. 420.
Kennedy v. Ins. Co., 3 Har. & J. 367. p. 420.
Stanley v. Hotel Corporation, 13 Maine, 31. p. 420.
Fanning v. Gregoire, 16 How. 524. p. 420.
Mott v. Hicks, 1 Cow. (N. Y.) 513. p. 421.
Ewen v. Norris, 2 Taunt. 374. p. 421.
Shelton v. Darling, 2 Conn. 435. p. 421.
Brockway v. Allen, 17 Wend. 40. p. 421.
Morgan v. Railroad Co., 1 Woods, 15. p. 422.
Bradley v. Holdsworth. 3 Mees. & W. 334. p. 422.
Arnold v. Ruggles, 1 R. I. 165. p. 422.

Appeal from the Circuit Court of the United States for the Eastern District of Wisconsin.

Statement of the case by Mr. Justice Woods:

The bill of complaint alleged that on May 3, 1864, letters patent of that date were granted to the complainants, Matthew Gottfried and John F. T. Holbeck, for an improvement in a machine for pitching beer barrels. It charged that the defendant was infringing said letters patent, and prayed for the writ of injunction against him to restrain further infringement, and for damages and an account of profits.

The only defence relied on was, that on November 25, 1872, one John H. Stromberg was the owner of an undivided one-third of the entire interest in the letters patent sued on, and being such owner, had sold and delivered to the de-

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fendant, for his use forever, a machine for pitching barrels, containing some of the improvements purporting to be secured by said letters patent; that the defendant had paid for said machine, and had, since said November 25, 1872, hitherto continued to use, and was still using, the same, and that the defendant, except as aforesaid, had never in any manner used or employed the method or improvements, or the process or machine, set forth in said letters patent.

The cause was heard in the circuit court upon bill, answer, replication, and evidence, and that court being of opinion that the defence had been made out, dismissed the bill. The appeal of the complainant brings the case to this court for review.

The controversy relates to the right of the defendant to use the machine purchased by him from Stromberg. The evidence establishes the following state of facts, about which there seems to be no dispute:

Letters patent dated May 3, 1864, were granted to Gottfried and Holbeck, the complainants, for an improvement in the mode of pitching barrels.

On November 25, 1872, one Stromberg sold to the defendant, Miller, a pitching machine containing, as complainants asserted, the improvements covered by their patent. Miller claimed the right to use this machine, and has used it from the time of his purchase up to the filing of the bill. This is the infringement of which complaint is made. The controversy depends on several transfers and other transactions between the parties who at different times had or claimed to have an interest in the patent. They were as follows:

On December 19, 1870, Gottfried, one of the patentees, by written assignment, in consideration of \$5 paid and a royalty to be paid of \$10 on every machine to be manufactured by Holbeck, sold and transferred to Holbeck all his interest in the patent and the invention, reserving to himself, however, in the same instrument the right to revoke the assignment if the royalty reserved should not be paid; and on January 3, 1871, Holbeck, being then the

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sole owner of the patent, sold and assigned to Charles F. Smith and Henry C. Comegys an undivided two-thirds of all his title and interest therein. On January 25, 1871, the title to the patent being at that time in Holbeck, Smith, and Comegys, they, by written assignment, transferred all their right, title, and interest in and to various patents, including the Gottfried and Holbeck patent, to the "Barrel Pitching Machine Company" of Baltimore. The assignment contained this provision: "The same to be held and enjoyed by the said company as fully and entirely as they would have been held by us if this assignment and sale had not been made, with the exception that the said company shall not assign to anyone but ourselves any or all the interest in and to the above named patents in the proportion as they are now held by us, this assignment to hold good until the dissolution or liquidation of the said company, when the said company shall re-assign to us in the same proportions as now assigned by us." Afterwards, on June 1, 1871, Holbeck, Smith, and Comegys made a further assignment to the company of their interest in the patents mentioned in the first assignment, which contained the following clause: "And provided also, that this assignment shall continue in full force until the dissolution of said company, in which event, or in the event of the liquidation of the affairs of said company, the several interests of each grantor in said patents shall, subject to the lawful rights of the creditors of said corporation, be re-assigned to each grantor."

On December 9, 1875, the directors of the Barrel Pitching Machine Company resolved that all the right, title, and interest of the company in and to this patent acquired by the assignment from Smith, Comegys, and Holbeck should be assigned and conveyed back to those parties for the sum of \$500. And it was further resolved that Charles F. Smith, who was the president of the Barrel Pitching Machine Company, be directed to execute and deliver to Smith, Comegys, and Holbeck an assignment on behalf of the Pitching Machine Company.

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On the 11th day of December, 1875, in pursuance of the resolution just mentioned, an instrument was executed which purported to be an assignment for the consideration of \$500, by the Barrel Pitching Machine Company to Smith, Comegys, and Holbeck, of all the right, title, and interest of the company in and to the patent. The attestation clause and signature were as follows :

“ In testimony whereof, and in pursuance of a resolution passed by said company on the 9th day of December, 1875, a copy of which is appended hereto, the said Charles F. Smith hath hereto set his hand, as the act of the said company, this 11th day of December, 1875.

(Signed)

CHARLES F. SMITH,

President Barrel Pitching Machine Company.”

On the same day, December 11, 1875, Smith, for the alleged consideration of \$500, granted and assigned to Holbeck and Gottfried all his right and title to the patent; and afterwards, on June 7, 1876, Comegys transferred to Stromberg all his interest in the patent.

It next appears that on October 9, 1876, Gottfried, Holbeck, and Stromberg, who are named as jointly interested in the patent, by a certain instrument in writing, appointed J. H. B. Latrobe, of Baltimore, their attorney, with authority to prosecute suits against infringers of the patent, and to compromise or adjust the same. This instrument contained the following clause :

“ And it is understood that all expenses, costs, and charges, including counsel fees, attending the litigation, if any, shall be deducted from the collections aforesaid, and the balance paid over to the parties hereto in the proportion of their interest in the said patents, and particularly it is understood that the said John H. Stromberg shall be paid out of said collections as fast as made, all moneys that he may have advanced in the prosecution of claims under said letters patent.”

This instrument bears the signatures and seals of Holbeck, Gottfried, and Stromberg. During the years 1877 and 1878,

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bills in equity were filed by them against various defendants, in which they averred themselves to be joint owners of the letters patent.

On December 15, 1879, Stromberg, in consideration of the sum of \$5,000, assigned to Gottfried all his interest in the patent, and in all claims of every kind or nature for past infringements, and all rights of action arising out of or connected with infringements. This instrument of assignment recited the fact that Stromberg had theretofore disposed of rights and licenses under the patent as a part owner under *mesne* assignments of the same, and had caused suits to be instituted against infringers ; and that it was a part of the consideration of the assignment from him that he should be released from all claim which Gottfried or Holbeck, or their assignees, might or could have against him for or by reason of any collections theretofore made by him, or his attorneys, or against any person or persons to whom he had granted licenses to use the patented improvements ; and it was then declared as follows :

“ Now, therefore, the said Matthew Gottfried and the said John F. T. Holbeck (the said Holbeck uniting herein for the purpose of carrying out the agreement aforesaid,) for and in consideration of the premises, have released, and by these presents do hereby release, the said John H. Stromberg from all claim that they or either of them might or could have against the said Stromberg for or by reason of any collection he may have made from parties to whom he or his attorneys * * * may have granted licenses to use the said patented improvement, hereby ratifying and confirming all such licenses, and all the acts of the said Stromberg and his attorneys in the premises. And the said Matthew Gottfried doth hereby covenant and agree that he will save harmless the said Stromberg and his attorneys from all claims that may be made against them or either of them for or by reason of any interest which the said Gottfried and Holbeck or either of them may have given to any other party in the said letters patent.”

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It appears, also, that in September, 1873, Charles F. Smith brought a suit against Henry C. Comegys, in the Superior Court of Baltimore City upon an indebtedness from Comegys to him, in which an attachment was issued and a seizure made of the shares of capital stock held by Comegys in the Barrel Pitching Machine Company, which proceedings, on October 27, resulted in a judgment condemning the stock, according to the laws of the State of Maryland, for the satisfaction of Smith's claim.

On the day upon which Stromberg sold the machine to the defendant, Miller, he had no interest in the patent and no license under it, and it is admitted that in making and selling the machine to Miller, Stromberg was an infringer.

At the January term, 1881, on motion of both complainants, the court below dismissed the bill as to Holbeck, and upon final hearing, in June following, a decree was made dismissing the bill as to Gottfried, the other complainant. From this decree Gottfried appealed.

Messrs. Thomas A. Banning and Ephraim Banning, for appellant:

We contend that Comegys did not derive any title through the instrument executed by Smith, December 11, 1875, *because it was not an assignment by the company, but merely the personal deed of Smith*. It was signed "Charles F. Smith, Pres't Barrel Pitching Co." The words following Smith's name cannot possibly be considered as a signature by the company, but are merely *descriptio personæ*.

It is true that Smith was directed by resolution to execute the assignment "on behalf" of the company; but, as we understand it, this was simply a direction to execute it in the usual manner. The resolution was a mere power of attorney, and did not authorize him to assign the patent by his own personal deed. The law regulates the manner in which patents shall be assigned and deeds executed by corporations, and it must be presumed that the resolution in question contemplated at least a substantial compliance

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with these regulations, namely, that the assignment would be in writing and executed in the name of the corporation.

Judge Potter says: "When a deed is executed by an officer, as by the president of a corporation, in pursuance of a resolution authorizing him to do so, if it be executed by such officer in his own name, as for instance, 'I, the president,' etc., have hereunto set '*my hand and seal*,' though he add his title of office to his name, opposite to a seal, which, on its face, purports to be only a private seal, it can be regarded as only the private deed of such officer who had no personal interest in the estate or property conveyed. *No recitals contained in the instrument itself add anything to its authenticity.*" Potter on Corporations, § 40.

In Field on Corporations, § 197, it is said: "In the execution of a contract of the corporation by an agent, the proper way is to sign the *corporate name* to the instrument and the name of the agent acting for it, and to seal it with the corporate seal. It should appear on the face of the instrument that the contract is the contract of the corporation and not the personal act and contract of the agent.

* * * It is also held that whatever authority the signer may have to bind another, if he does not sign as agent or attorney he binds himself and no other person." * * *

"It is evident that in the execution of a written instrument the name of the party intended to be bound should appear, and that when an agent executes an instrument *he should do it in the name of the party for whom he acts.*"

"A corporation must execute its deed under its corporate seal, otherwise the deed is void." 1 Parsons on Contracts, 6th ed. 139.

The general rule on this subject is thus considered by Judge STORY: "In order to bind the principal, and to make it his contract, the instrument must purport on its face to be the contract of the principal, and his name must be inserted in it, *and signed to it*, and not merely the name of the agent, even though the latter be described as agent in the instrument. * * * Indeed the rule has been laid

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down in broader terms ; and it has been said to be an ancient rule of the law, that, when anyone has authority, as attorney, to do any act, *he ought to do it in his name who gives the authority.* Story on Agency, § 147-150.

But we are not without direct authority on this point. In *Campbell v. James*, 17 Blatch. 52, Judge WHEELER held, as of course, that an assignment, executed by the president of a corporation in exactly the same form as the one now under consideration, was the personal deed of the president, and not an assignment by the company. He said: "The execution by Secombe, although the addition to his name of 'president' was made, was a good execution of the deed for himself, and good for that only, *and not good to convey any interest for the company, even though that had been the intention.*"

Mr. E. H. Abbott, for appellee :

The whole argument of appellants rests upon the question, whether the first re-assignment by the Barrel Pitching Machine Company was effectual. It is, not on account of its defective execution, the complainant claims. The resolutions by the directors of the company appear to be full and ample. The assignment does not purport to be under seal, and an assignment of a patent is not required to be under seal, (Rev. Stat. § 4898,) an instrument in writing merely being sufficient. It is executed by the president of the company, in precise accordance with the resolution of the directors, by which he was empowered to make it.

It is true, that anciently a corporation was required to act by its seal, and no writing could be executed by it without its seal ; but this rule has been relaxed for many years. The reasoning on this ground, strongly urged in the court below, would, if effectual in this case, serve to invalidate every bank note issued by our national banks, and almost all the insurance policies issued by corporations in the United States.

It appearing sufficiently that Stromberg was a part owner

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of the patent, we have yet to see what effect that would have upon the rights of this defendant. The manufacture and sale of a machine by a party to another, obviously confers the right to use the same, so far as the seller can confer it. It is really a strong form of granting a license.

Mr. Justice Woods (*a*) delivered the opinion of the court:

The appellant rests his right to a decree in this case upon these grounds: first, that Stromberg never owned any part of the patent sued on; and, second, that if he did, his ownership could not inure to the protection of the defendant, Miller. We shall consider these contentions in the order stated.

Upon the first point we remark that it is entirely clear that the assignment of his interest in the patent by Comegys to Stromberg, dated June 7, 1876, transferred to the latter an interest therein, provided the retransfer of the patent by the Barrel Pitching Machine Company to Holbeck, Smith, and Comegys vested the title to the patent in them. Briefly stated, the following is the chain of title: Gottfried and Holbeck are the joint patentees; Gottfried conveys all his interest in the patent to Holbeck, who becoming thus the owner of the entire patent, conveys one undivided third to Smith and another to Comegys. Holbeck, Smith, and Comegys convey the entire interest in the patent to the Barrel Pitching Machine Company. The company reconveys its interest in the patent to its assignors, Holbeck, Smith, and Comegys; Smith conveys his interest to Gottfried and Holbeck, and Comegys conveys his to Stromberg.

The contention of the appellant is, that the assignment of December 11, 1875, by the Barrel Pitching Machine Company to Holbeck, Smith, and Comegys was not properly executed, and was, therefore, ineffectual to pass any title.

The assignment declares that in pursuance of a resolution passed by the Barrel Pitching Machine Company, and in

(*a*) Otto inserts, "after stating the case"

Opinion of the court.

consideration of \$500 received by it from Smith, Holbeck, and Comegys, the said company has granted to them all its title and interest in said letters patent. It is officially signed by Smith as president of the company, who declares the setting of his hand thereto to be the act of the company.

The resolution referred to in this assignment is in the record, from which it appears that the company decided to make the assignment, and directed Smith to execute and deliver the same to Smith, Comegys, and Holbeck on behalf of the company, on receiving from them the sum of \$500.

On account of the want of the corporate seal and of the manner of its execution it is insisted by appellant that this assignment was not the transfer of the Barrel Pitching Machine Company, but the personal deed of Smith.

There is no ground whatever for this contention to stand on. Assignments of patents are not required to be under seal. The statute regulating their transfer simply provides that "Every patent, or any interest therein, shall be assignable in law by an instrument in writing." 16 Stat. at L. p. 203, sec. 36; R. S. sec. 4898.

A corporation may bind itself by a contract not under its corporate seal when the law does not require the contract to be evidenced by a sealed instrument. *Bank of Columbia v. Patterson*, 7 Cranch, 299; *Fleckner v. U. S. Bank*, 8 Wheat. 338; *Andover Corporation v. Hay*, 7 Mass. 102; *Dunn v. St. Andrew's Church*, 14 Johns. 118; *Kennedy v. Baltimore Ins. Co.*, 3 Har. & J. 367; *Stanley v. Hotel Corporation*, 13 Me. 31. Even the parol contracts of a corporation made by its duly authorized agent are binding. *Fanning v. Gregoire*, 16 How. 524; *Fleckner v. Bank of the U. S.*, 8 Wheat. 338. The absence, therefore, of the corporate seal from the contract of assignment does not render it invalid or void.

The assignment is executed in the manner required by law of an agent when making a simple contract in writing for the corporation and by its authority. The rule as laid

Opinion of the court.

down by the authorities is, that the agent should, in the body of the contract, name the corporation as the contracting party and sign as its agent or officer. This is the mode in which bank-bills, policies of insurance, and many other contracts of corporations are ordinarily executed. *Mott v. Hicks*, 1 Cow. 513; *Bowen v. Norris*, 2 Taunt. 374; *Shelton v. Darling*, 2 Conn. 435; *Brockway v. Allen*, 17 Wend. 40.

The assignment under consideration purports, on its face, to be the contract of the Barrel Pitching Machine Company. It declares that the consideration has been received by the company; that it is executed in pursuance of a resolution passed by the company, and it purports to be signed by Smith, president of the company, who declares that he signs it as the act of the company.

It would be an absurdity to hold that this instrument is the individual contract of Smith and not of the Barrel Pitching Machine Company.

It is not the company which asserts that this instrument was ineffectual to divest it of title to the patent, and the record shows that the assignees therein named acted upon the assumption that the assignment vested them jointly with the title.

We are of opinion, therefore, that the assignment was well executed by the Barrel Pitching Machine Company, and transferred the letters patent to Holbeck, Smith, and Comegys, and that Stromberg, on June 7, 1876, by virtue of the assignment made to him on that day by Comegys, became vested with an undivided interest in the patent.

It is contended by counsel for appellant that the attachment of the stock of Comegys in the Barrel Pitching Machine Company, at the suit of Smith, in the Superior Court of Baltimore City, prevented Comegys from acquiring any interest in the patent by the assignment thereof to Smith, Holbeck, and Comegys by the Barrel Pitching Machine Company and, therefore, Comegys could convey no interest in the patent to Stromberg. This position seems to be

Opinion of the court.

founded on the clause of the instrument by which the patent was transferred to the Barrel Pitching Machine Company, to wit: that any re-assignment of the patent to the assignors should be subject to the lawful rights of the creditors of the company.

The answer to this contention is, that Smith was the creditor of Comegys, and not of the company, and the clause in the instrument of transfer to the Barrel Pitching Machine Company gave Smith no claim on the patent to secure a debt due him, not from the company, but from a stockholder in the company.

The fact that Comegys held stock in the company gave him no title to its property. Mr. Justice BRADLEY in *Morgan v. the Railroad Company et al.*, 1 Woods, 15; *Bradley v. Holdsworth*, 3 Mees. & W. 334; *Arnold v. Ruggles*, 1 R. I. 165; and the attachment of his stock did not in the least incumber the property of the company, or prevent the assignment of the letters patent by it to Smith, Holbeck, and Comegys, or the transfer by Comegys to Stromberg.

It remains to consider whether the sale by Stromberg to the defendant, Miller, of one of the pitching machines, containing the improvement described in the patent, protects him from liability for its use in this suit.

By the contract of sale, Stromberg warranted not only the title to the machine itself, but of the right to use it. If, at the time of the sale, he had been the owner of the patent, the sale would have constituted a license to Miller to use the machine as long as it lasted. But Stromberg did not acquire any interest in the patent until long after the date of his sale to Miller.

If he had subsequently become the sole owner of the patent, his previous sale to Miller of a machine embodying his patented invention, would have estopped him from prosecuting Miller for an infringement of the patent by the use of the machine. In analogy to estates in land by estoppel,

Opinion of the court.

Miller would have acquired a right to use the machine which could not have been controverted by Stromberg.

But having acquired only a part interest in the patent, we do not undertake to decide that his previous sale of the machine to Miller bound the other joint owners of the patent. It is clear, however, that such sale was a license to Miller to use the machine so far as Stromberg could grant a license. And, in our opinion, the covenants of Gottfried and Holbeck in the contract by which Stromberg assigned his interest in his patent to them, are sufficient to protect Miller from this suit. In that contract it is declared to be part of the consideration of the transfer by Stromberg of his interest in the patent to Gottfried and Holbeck "That he should be released from all claims which Gottfried or Holbeck, or either of them, or any person to whom they, or either of them, may have assigned an interest in said letters patent, might or could have against him, * * * or against any person or persons to whom Stromberg may have granted licenses to use the said patented improvement." And by said instrument Gottfried and Holbeck, for and in consideration of the premises, declare that they do release said Stromberg from all claim they or either of them may have against him or the parties to whom he may have granted licenses to use said patented improvement.

We think there can be no doubt that it was the purpose of all the parties to this instrument, and it is clearly expressed therein, that, as a part of the consideration of the transfer, Stromberg was released from claims against him arising out of his transactions in reference to said patent, and that all licenses granted by him were in effect confirmed. This contract, therefore, affords complete protection to Miller, the appellee, and is an effectual bar to the prosecution of this suit.

(b) The decree of the Circuit Court dismissing the bill must, therefore, be affirmed (c).

104 U. S. 529-530.

(b) Otto substitutes for from b to c. "Decree affirmed."

Notes and citations.

Notes :

1. Act 1793, Sec. 4; Act 1836, Sec. 11; Act 1870, Sec. 36; **R. S. Sec. 4898.**
-
-

Patent in suit:

No. 42,580. Holbeck & Gottfried. May 3, 1864. Pitching Barrels.

OTHER SUITS ON SAME PATENT :

Gottfried v. Bartholomae, 1878. 8 Biss. 219; 3 Ban. & Ard. 308; 13 O. G. 1128.

Gottfried v. Philip Best Brewing Co., 1879. 5 Ban. & Ard. 4; 17 O. G. 675.

Gottfried v. Seipp Brewing Co., 1881. 10 Biss. 368; 8 Fed. Rep. 322.

Gottfried v. Crescent Brewing Co., 1881. 9 Fed. Rep. 762; 22 O. G. 497.

Gottfried v. Miller, 1881. 10 Fed. Rep. 471.

Gottfried v. Crescent Brewing Co., 1882. 13 Fed. Rep. 479; 22 O. G. 1447.

Gottfried v. Stahlmann, 1882. 13 Fed. Rep. 673; 22 O. G. 1788.

Crescent Brewing Co. v. Gottfried, 1888. 128 U. S. 158; Bk. 32 L. ed. 390.

Gaff v. Gottfried, 1888. 128 U. S. 170; Bk. 32 L. ed. 395.

Notes and citations.

Cited:

IN CIRCUIT COURTS IN :

Curran v. Burdsall, July, 1883. 20 Fed. Rep. 835; 27 O. G. 1319.

IN TEXT-BOOKS :

2 Abb. Pat. Laws, 1886, p. 111.

Walker on Pats., 1883, p. 198.

Syllabus.

HENRY W. STOW, APPELLANT, v. CITY OF CHICAGO.*

104 (14 Otto) U. S. 547-552. Oct. Term, 1881.

[Bk. 26, L. ed. 816; 21 O. G. 790.]

Affirming *Ibid*, 8 Biss. 47.

Argued December 14, 15, 1881. Decided January 9, 1882.

Particular patent held wanting in novelty. Right of first inventor to all uses of his invention. Particular patent construed and doubted that it involves invention.

1. Claims 1 and 2 of reissued letters patent, No. 3,274, H. M. Stow, June 19, 1869, (original No. 72,110, December 10, 1874,) Pavement, construed to be for the making of the lower ends of a portion of the blocks of which the pavement is composed in wedge shape, and the driving of these wedge-shaped blocks below the general under-surface of the pavement into the sand or earth bed on which it rests, so as to pack it and render it solid and unyielding. *Held*, to be anticipated by the English patent of Stead, of August 23, 1839, which does not in terms say that the purpose of driving the wedge-shaped block or pile through the space left by the octagonal blocks is to pack the earth or sand foundation, it appearing that such a result must follow from the construction described. (p. 451.)
2. A patentee who is the first to make an invention is entitled to his claim for all the uses and advantages which belong to it, and it is immaterial whether he perceived and stated such advantages in his patent. (p. 454.)
3. When every other part of the invention described in letters patent, No. 134,404, H. M. Stow, December 31, 1872, Pavement, was shown to be old, doubted whether it can be called invention to have the ground in the spaces between the blocks more compactly rammed, so as to drive it below the under surface of the pavement into the earth foundation; but the evidence failing to show that the defendant used this feature of the invention, the bill is dismissed. (p. 454.)

*See Explanation of Notes, page III.

Statement of the case.

[Citations in the opinion of the court:]

Stead v. Williams, 7 Man. & G. 818. p. 453.

Woodman v. Stimpson, 3 Fish. 98. p. 454.

Tucker v. Spaulding, 13 Wall. 453 [8 Am. & Eng. 474.] p. 454.

Graham v. Mason, 5 Fish. 1. p. 454.

Elizabeth v. Pavement Co., 97 U. S. 126 [11 Am. & Eng. 514.] p. 455.

Appeal from the Circuit Court of the United States for the Northern District of Illinois.

The case is stated by the court.

The specifications and drawings of Stow's original and reissued letters patent, and Stead's English patent are as follows:

HENRY M. STOW, OF SAN FRANCISCO,
CALIFORNIA.

IMPROVED PAVEMENT.

Specification forming part of Letters Patent, No. 72,110, dated December 10, 1867; Reissue No. 3,274, dated January 19, 1869.

To all whom it may concern:

Be it known that I, Henry M. Stow, of the city and county of San Francisco, in the State of California, have invented a new and useful Improvement in Pavements for streets, sidewalks, and ground and cellar floors; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon.

Figure A is a perspective view of a section of my street pavement, that part of the figure designated by the letter, C, representing the pavement in process of construction and that part designated by C', representing it as completed. Fig. B is a perspective view of a section of my improved pavement as adapted to sidewalks, ground and cellar floors.

Statement of the case.

The nature of my invention consists in putting down a pavement of wood or other suitable material upon a foundation-bed of sand or loose earth, and packing the sand or earth by means of wedge-blocks driven down into the same, and forming a part or the whole of the pavement.

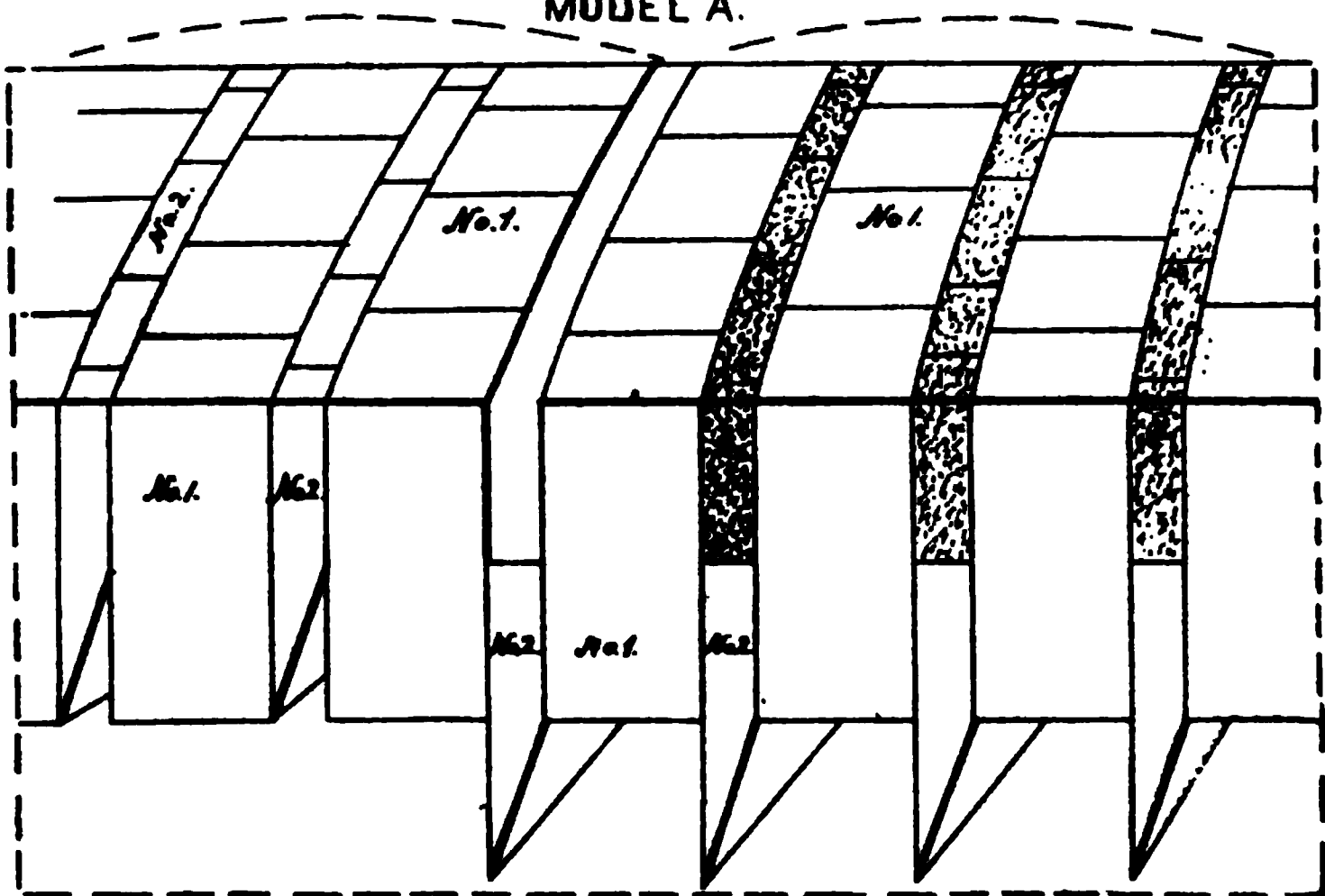
In constructing the street pavement the street is first filled with clear sand, loam, or loose earth, free from stones, to within about four to six inches of the desired street-grade, (according to the length of blocks,) and smoothed off so as to conform to the desired arch or crown of the street. Then blocks of wood or other suitable material, marked No. 1 in the drawings, are set on their ends in a tier across the street, these blocks being cut square at both ends. Next, a tier of blocks, marked No. 2 in the drawings, made wedge-shaped at their lower ends by beveling on one side, is set across the street close against the first tier of square-ended blocks, and then another tier of square-ended blocks is set up, as before, and so on alternate tiers of square and wedge-shaped blocks are placed until a space of ten feet or more is covered. Then the wedge-shaped blocks are driven down into the sand or earth with a rammer and swage until the upper ends are below the upper ends of the square-ended blocks No. 1 and the foundation is of the desired compactness. The said wedge-shaped blocks No. 2 may be made of the same length as the blocks No. 1, and may be driven down until their upper ends reach about the center of said blocks No. 1, as shown in Fig. A of the drawings, in which case the open spaces above them, between the blocks No. 1, are to be filled with gravel; or the said blocks No. 2 may be made some two or three inches longer than the blocks No. 1 and driven down until their upper ends are only half or three-fourths of an inch, or thereabout, below the upper ends of blocks No. 1, leaving shallow grooves, merely to give a foothold for horses and other animals traveling on the pavement. The said blocks No. 1 should be from four to six inches long, (or deep,) about three inches thick, and of any convenient width. The blocks

H. M. Stow.
Wood Pavement.

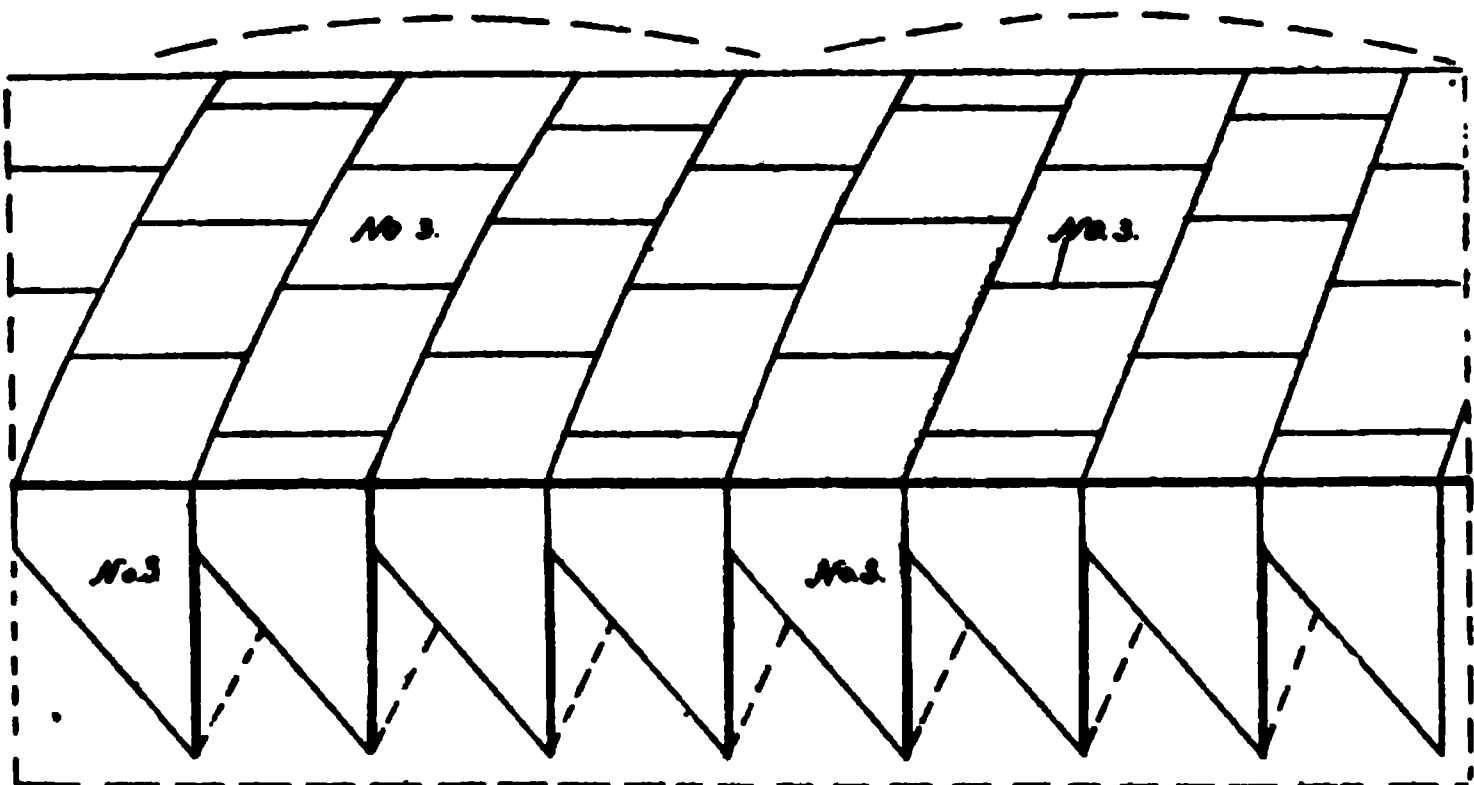
N^o 3,274.

Reissued Jan. 19, 1869.

MODEL 'A.'



MODEL 'B.'



Witnesses.
John B. Brady
Naniel Gorham.

Henry M. Stow
Inventor.

Statement of the case.

No. 2 may be about one inch thick and of any convenient width. But I do not limit myself to these dimensions.

The blocks should be set so as to break joints. The driving down of the wedge-shaped blocks, as described, packs the sand or earth so compactly that the most heavily-laden wagons passing over the pavement will never occasion any unevenness in the surface thereof. The sand or earth forming the foundation-bed should be thoroughly wet when the blocks are put down. The blocks, when of wood, are to be so formed and set in the pavement that the grain of the wood will be vertical, and they may be saturated with coal or gas tar, or any liquid hydrocarbon or other resinous substance which will tend to preserve the wood from decay, before being set in the pavement. When the blocks are sufficiently hammered down, the whole surface of the pavement should be thoroughly saturated with boiling-hot coal-tar, asphaltum, pitch, oil and asphaltum, or other pitchy substance, and covered with clean sand at least half an inch in thickness.

When the foundation-bed is composed of sand or loose sandy earth, it will not be absolutely necessary to bevel the lower ends of the blocks No. 2, as even square-ended blocks will operate as wedges, and on being driven down into the foundation-bed will pack the same sufficiently. I prefer, however, to make the blocks to be driven down into the foundation-bed wedge-shaped at their lower ends, as described.

Nor is it absolutely necessary that the blocks, when of wood, be sawed or dressed into regular forms and set in regular tiers, as a very good cheap pavement, involving the principle of my invention, may be made of blocks of split wood, of irregular form, set on their ends, and a proper proportion of them, at regular intervals, (as near as may be,) driven down into the foundation-bed, so as to produce the requisite packing of the same.

While I regard my invention as most appropriately applicable to wooden pavements, it is manifest that said blocks No. 1 may be of dressed stone, or of a concrete composition,

Statement of the case.

molded into the form of blocks, of dimensions similar to those shown in the drawings, or into the form of continuous blocks or ribs running clear across the street, or any portion of said distance, and the blocks No. 2 may be of dressed stone, brick, or wood, or of any suitable material that will bear driving down into the foundation-bed.

For sidewalks and ground or cellar floors, I make all of the blocks of the same length and thickness, and make the lower ends all of wedge form, by beveling one side, as shown in Fig. B. For sidewalks, I make the blocks from two to four inches in thickness and from four to six inches long; but for floors of buildings, I prefer to make them larger, say, from four to six inches wide and from six to twelve inches long. But I do not limit myself in either case to any specific dimensions.

The blocks should be set so as to break joints in all cases, whether for street pavements, side-walks, or floors.

I do not claim leaving a space between the upper portions of the square-ended blocks No. 1 and filling said space with gravel, as I am advised that is not new, but is covered by the patent granted to Samuel Nicolson, August 8, 1854, and the reissues thereof; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. A pavement composed of alternate tiers of square-ended and wedge-shaped blocks, the wedge-shaped ends of the latter being driven into a foundation-bed of sand or earth, substantially as and for the purpose described.

2. A pavement composed of blocks with lower ends wedge-formed, and all driven down into a foundation-bed of sand or earth, substantially as shown and described.

3. A pavement composed of wood, or in whole or in part of other suitable material, laid on a foundation-bed of sand or loose earth, as described, and a portion of the blocks

H. M. STOW.

Wood-Pavements.

No. 134,404.

Patented Dec. 31, 1872.

Fig. 1

Fig. 2.

Witness
J. L. Coombs
Chas L Coombs

Inventor
Henry M. Stow
By *J. L. Coombs*
Attorney.

Statement of the case.

driven down into said foundation-bed to pack the same, substantially as and for the purpose specified.

HENRY M. STOW.

Witnesses:

J. J. COOMBS,
JOS. L. COOMBS.

HENRY M. STOW, OF SAN FRANCISCO,
CALIFORNIA.

IMPROVEMENT IN WOOD PAVEMENTS.

Specification forming part of Letters Patent, No. 134,404, dated
December 31, 1872.

CASE 1.

To all whom it may concern :

Be it known that I, Henry M. Stow, of San Francisco, in the county of San Francisco, and State of California, have invented a new and useful Improvement in Wooden Pavements; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The nature of my invention relates to that class of wooden pavements in which the blocks are laid directly upon the sand foundation; and it consists in laying the blocks in rows with spaces between the rows, and in filling or partially filling said spaces with sand or gravel and driving or swaging the same into the sand foundation below in order to pack or compress the sand under the blocks, for the purpose of sustaining the weight of heavy vehicles passing over the pavement.

In the drawing, Figure 1 represents a sectional view of the pavement in course of construction, and Fig. 2, a sec-

Statement of the case.

tional view of the finished pavement constructed according to my invention.

In constructing my pavement I first grade the street and cover it to a depth of not less than three inches with sand or loam, which I wet and pack with a maul or rammer until the whole is of sufficient compactness. I then strike the surface to a proper grade and lay the blocks, A, in rows transversely across the street, placing between the rows a removable strip of wood, B, of sufficient thickness to form the necessary spaces between the blocks, as shown in Fig. 1. After a sufficient number of rows have been laid in this manner, I remove the strips, B, and partially fill the spaces with sand or gravel. I then drive the gravel or sand in said spaces into the sand foundation below by means of a swage, maul, or other suitable instrument until the foundation under the blocks is sufficiently compressed. I then fill the spaces with gravel or sand and coal-tar or other cement, or with gravel or sand alone, and go over the whole with a smoothing-iron or other suitable instrument to finish the surface.

What I claim is—

A pavement composed of blocks laid in rows directly upon the sand foundation with spaces between the rows filled with sand or gravel, which is swaged or driven into said foundation, substantially as and for the purpose specified.

HENRY M. STOW.

Witnesses :

RICHD. S. ROBERTSON,
JNO. R. WHITE.

PAVING ROADS, BRIDGES, ETC.

Stead's Specification.

To all to whom these presents shall come: I, David

FIG. 1.

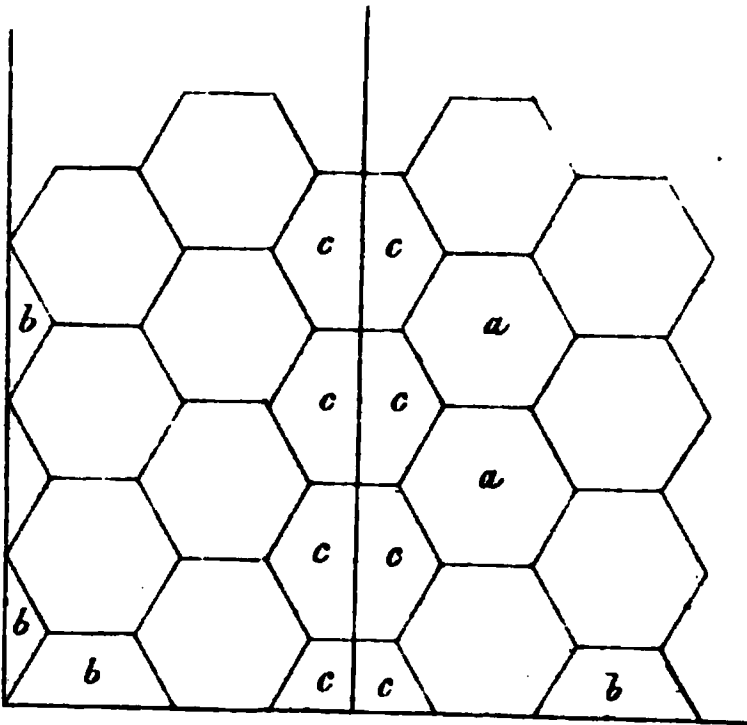


FIG. 2.
Elevation.

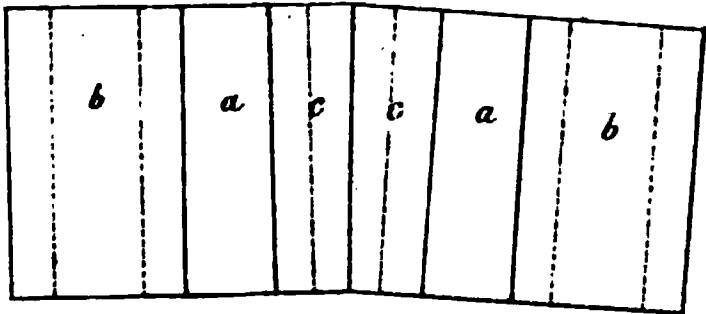


FIG 3.

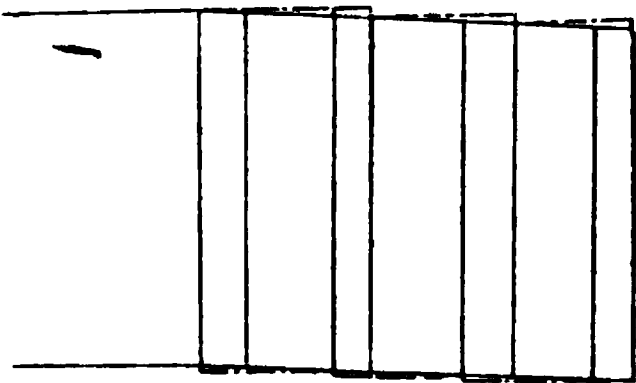


FIG. 10.
Plan

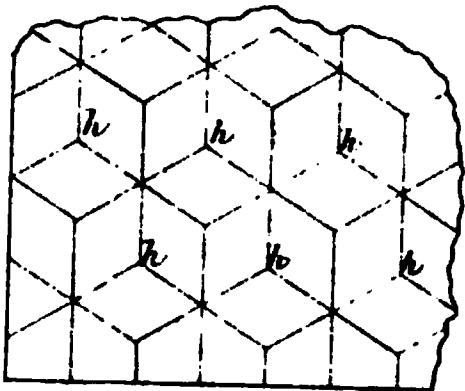


FIG. 11.
Elevation.

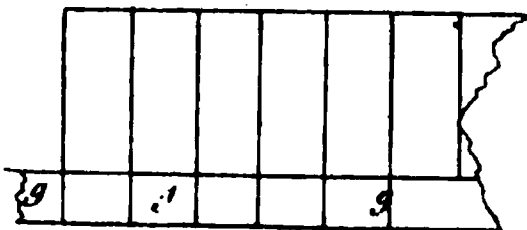


FIG. 4.
Plan View.

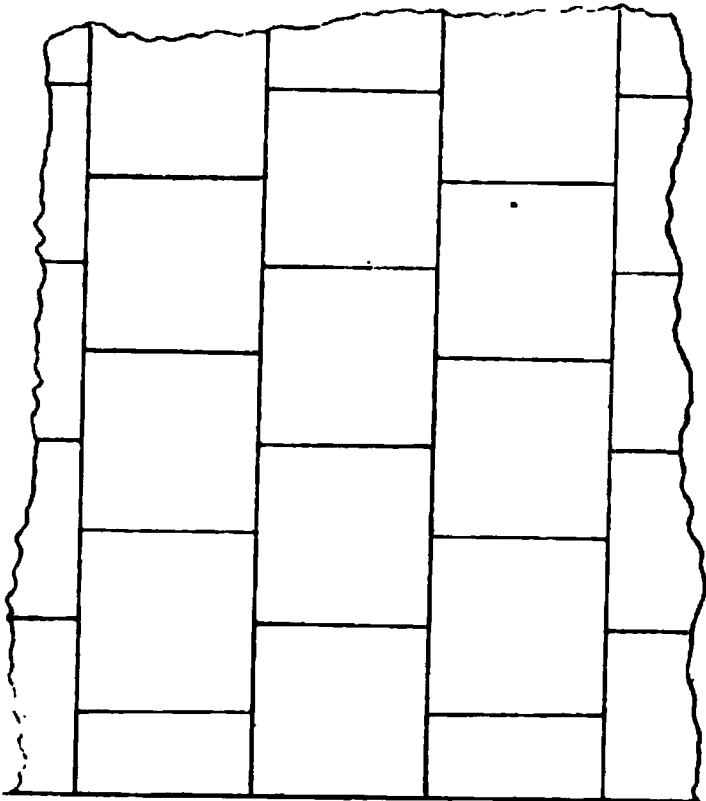


FIG. 5.
Elevation.

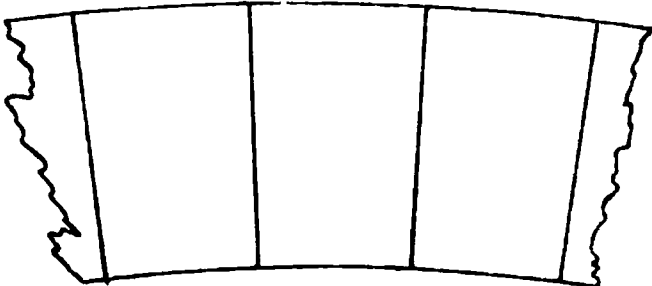


FIG. 6.

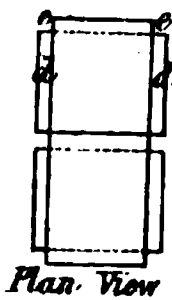


FIG. 7.



FIG

8.

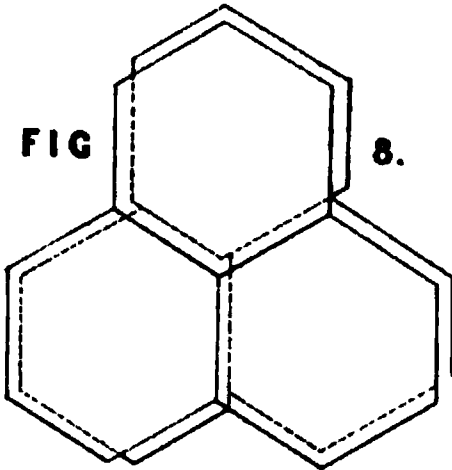


FIG. 9.
Elevation.

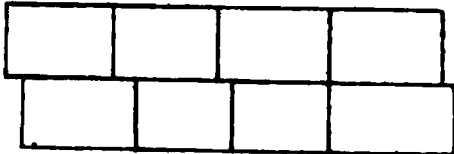


FIG. 12.
Plan.

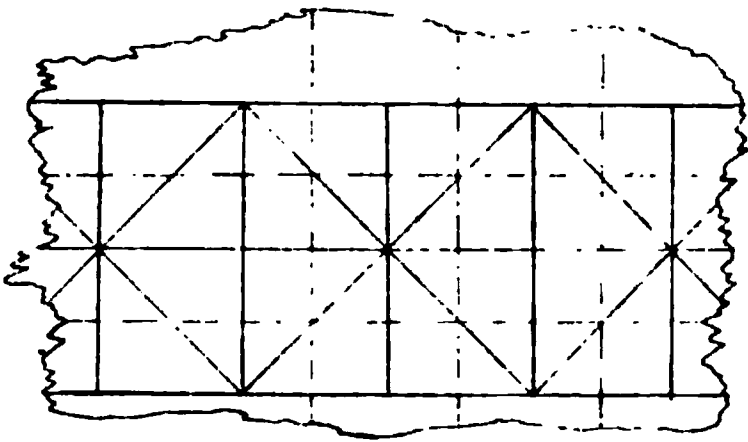


FIG. 13.
Elevation.

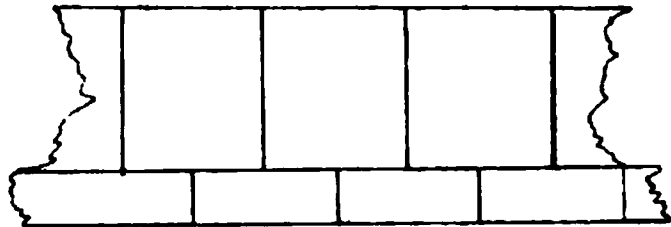


FIG. 18.
Plan.

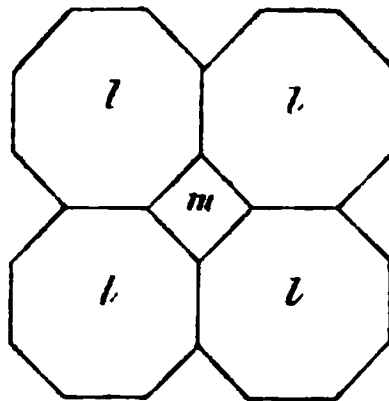


FIG. 19.
Elevation.

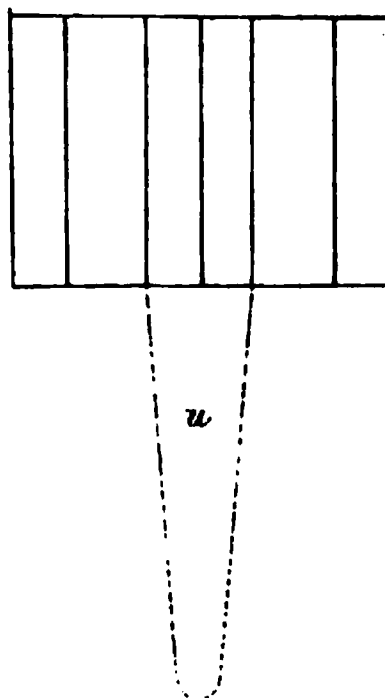


FIG. 16.
Plan View
Showing the spaces between the Blocks either filled up left open or partly filled up.

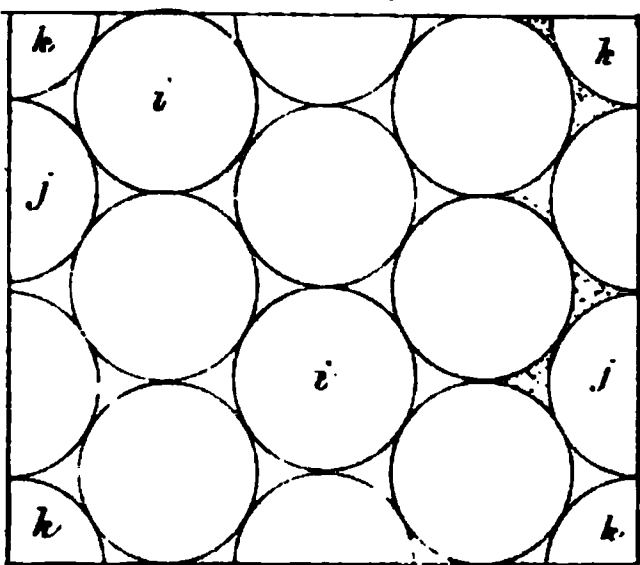


FIG. 17.

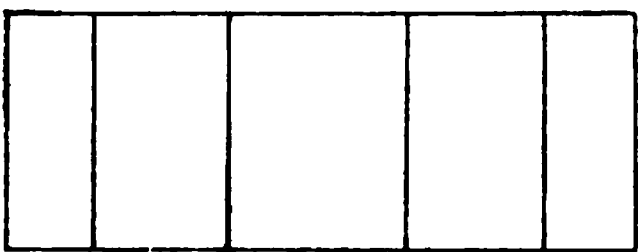


FIG. 14.
Plan View.

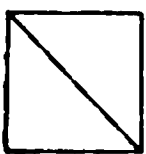


FIG. 15.



FIG. 20.

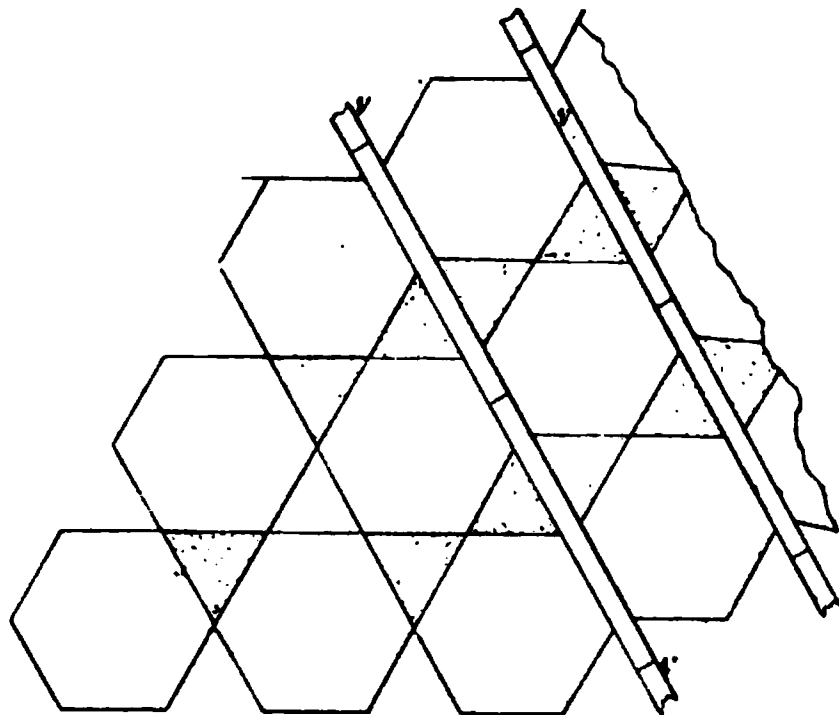


FIG. 21.
Plan.

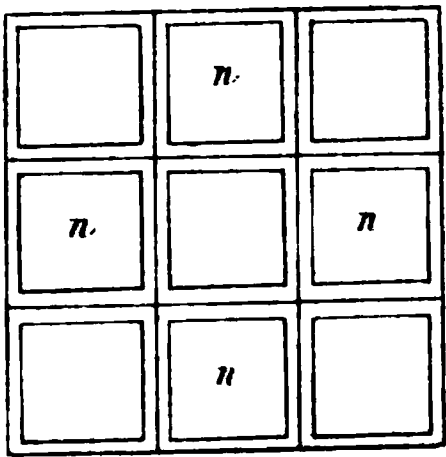


FIG. 22.

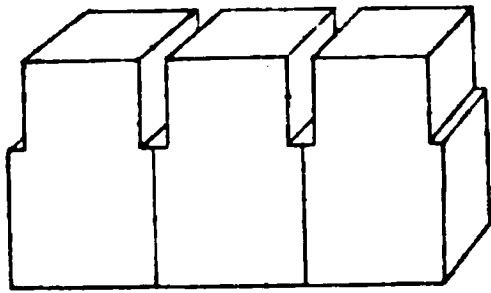


FIG. 23.

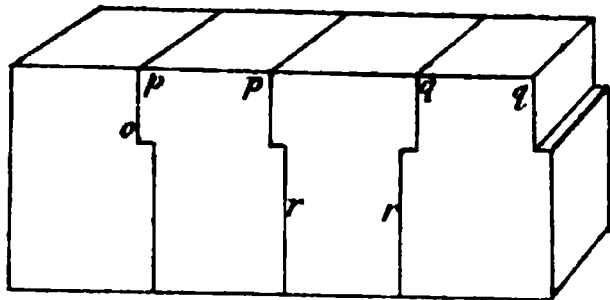


FIG. 24.

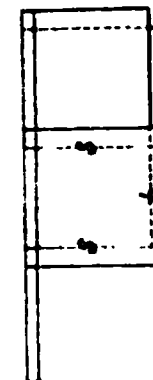
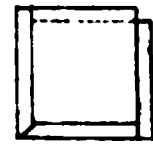
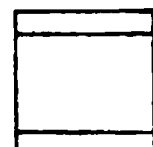
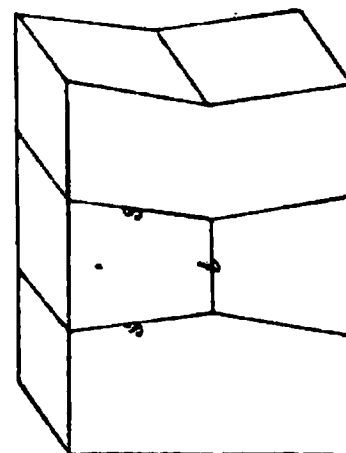
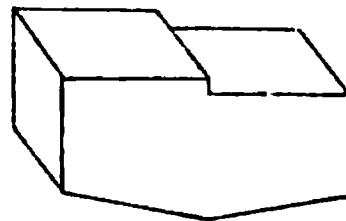
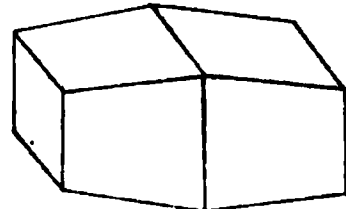
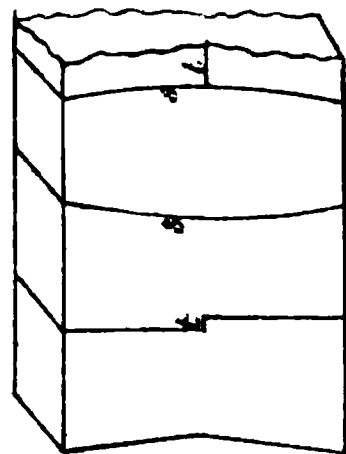
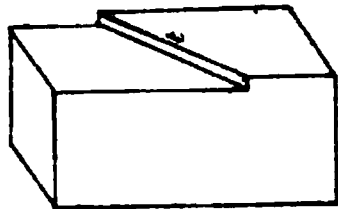
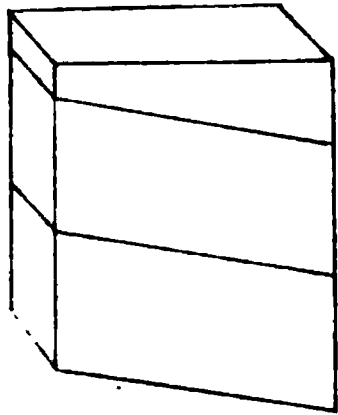


FIG. 25. *Plan View*

Statement of the case.

Stead, of Great Winchester street, in the city of London, merchant, send greeting :

Whereas, Her most Excellent Majesty Queen Victoria, by her Letters Patent under the great seal of Great Britain, bearing date at Westminster, the twenty-third day of April, in the second year of Her reign, did, for Herself, Her heirs, and successors, give and grant unto me, the said David Stead, Her especial license that I, the said David Stead, my executors, administrators, and assigns, or such others as I, the said David Stead, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times during the term of years therein expressed, should and lawfully might make, use, exercise, and vend, within that part of Her said Majesty's United Kingdom of Great Britain and Ireland, called England and Wales, and the Town of Berwick-upon-Tweed, and also in all Her said Majesty's Colonies and Plantations abroad, my Invention, partly a communication from a foreigner and partly my own discovery and invention, of "An Improved Mode or Method of Making or Paving Public Streets and Highways, and Public and Private Roads, Paths, Courts, and Bridges, with Timber or Wooden Blocks ;" in which said Letters Patent there is contained a proviso obliging me, the said David Stead, by an instrument in writing under my hand and seal, particularly to describe and ascertain the nature of my said Invention, and in what manner the same is to be performed, and to cause the same to be inrolled in Her said Majesty's High Court Chancery within four months next and immediately after the date of the said recited Letters Patent, as in and by the same, reference being thereunto had, will more more fully and at large appear.

Now know ye, That in pursuance of the said proviso and in compliance therewith, I, the said David Stead, do hereby declare the nature of the said Invention, and the manner in which the same is to be performed, are fully described and ascertained by the following description thereof, reference

Statement of the case.

being had to the Drawings and figures marked thereon, that is to say :—

The Invention consists in the paving and formation of the roadway of public and private ways and passages by means of wooden blocks, so shaped and placed as to support each other in a close and compact manner, the foundation being first suitably prepared to the required figure by the usual well-known means to receive such wooden blocks, which are so disposed as to present an even and uniform surface, and always having their fiber in a vertical position, whether the roadway has a curved, inclined, or horizontal face. The blocks which I use for the improved paving are cut transversely out of fir or other suitable timber, or they may be composed of deal plank ends or small pieces of timber firmly cemented together to any of the required figures herein-after described by means of asphalte or any other suitable material.

And when it is required to form a roadway upon a steep acclivity, I propose to place the blocks or to have them of such form or forms as are herein-after described, so that channels and cavities shall be left to afford a surer footing or hold for the feet of the animals traversing over such inclinations.

The following is a description of the Drawing annexed hereto, and which is to be considered as part of this my Specification :

Figure 1 and Figure 2 is a plan and elevation of a road formed with inclined surfaces from the centre of the road, such road being mainly composed of hexagonal-shaped blocks, *a a*, placed with the fiber vertical against and supporting each other, the sides or parts nearest the curbstone of such roadway being squared, made parallel, and finished to the curbstone by means of the required portions, *b b*, of such hexagons, as before described, and the whole keyed and made firm to the inclination of the roadway by means of the pyramidal hexagonal wedges, *c c*, which are to be introduced and driven tight between the hexagons forming

Statement of the case.

and nearest to the center of the road, or the roadway may be constructed without such wedges, by a series of hexagons, as represented at Figure 3, by cutting off the upper and under surface of the same to such a bevel as will correspond with the required inclination; the portions of such hexagonal blocks which are intended to be cut away are colored red in this Figure.

Figures 4 and 5 represent a plan and elevation of a portion of an improved paving, suited to a road having a curved surface, being formed of quadrangular blocks diminishing from their upper to their lower surfaces and slightly spherical on the top.

Figures 6 and 7 is a plan and elevation of another kind of level roadway, formed of blocks in shape resembling two parallelopipedons placed transversely, although cut out from one solid piece; the upper portion of such block is so formed, that the greatest width, *d d*, Figure 6, extends beyond the narrower width of the lower portion of the block, *e, e*, and thereby both the upper and under part of such block, provides rebates or ledges, *f, f*, Figure 7, for the adjoining block to fit under and rest upon, each making the other firm and secure.

Figures 8 and 9 represent a plan and elevation of a portion of a roadway constructed with improved road blocks resembling two hexagons. These are formed in a similar manner out of one piece to the figures last described, and have corresponding projections, both above and below, to sustain each other.

Figures 10 and 11 is a plan and elevation of another portion of the improved paving, which consists of a lower course of hexagons placed beneath and supporting an upper layer. The lower hexagons, *g, g*, being only about one-third of the depth of those which rest upon them, are fitted according to the black lines in the plan view, Figure 10, and the upper hexagons represented by the red lines, Figure 10, are so placed that one angle, *h*, of each rests on the center of that immediately beneath.

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Figures 12 and 13 represent a plan and elevation of a similar kind of paving to the last described, and consists of an upper and lower course, the lower course being formed of triangular blocks placed according to the black lines in Figure 12, and the upper layer of a series of parallelopipedon-shaped blocks represented by the red lines, Figure 12, laid upon them, with the fibrous or smaller end upwards, the upper course holding down and firmly securing the triangularly-formed base upon which it rests.

Figures 14 and 15 is a plan and perspective view of triangular-shaped blocks for forming a roadway without a lower course.

Figures 16 and 17 is a plan and end view of another kind of the improved paving, which is formed by a series of circular blocks, *i, i, i*, placed as represented in the drawing, and made parallel to the curbstone of the footway by the semi-circular and quadrant pieces, *j* and *k*; the smaller interstices or cavities between such circular blocks may be either filled with wooden pieces suited to their shape, or fitted up with cement or asphalte, as may be found convenient; and when this kind of paving is laid upon an inclined surface, I should recommend the cavities to be not filled up (provided the circular blocks are not too large, so as to render such cavities inconveniently large,) as additional hold may be thereby afforded to the feet of draught animals ascending such inclined way, as already alluded to.

Figures 18 and 19 is a plan and side view of a portion of a roadway formed by a series of octangular blocks, *L, L*, placed with the fiber vertical, so as to leave a square recess or interval between them, into which may be inserted a corresponding piece, *m*. When this kind of paving is laid upon a road formed upon a newly made embankment or shrinking base, I should recommend a pile to be driven into the earth through the square recess or interval, of about the size and form represented by the dotted lines, Figure 19, in order to support and keep the blocks firm in their position. When the octangular block paving is used for acclivities, I

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should recommend the beforementioned cavities either to be left unfilled or not filled up to the surface, to afford an assistance to animals ascending, the same as before described.

Figure 20 is another manner of placing an improved roadway when constructed of hexagonal blocks, being placed angle to angle instead of side to side, so as to leave triangular spaces between them if used for inclined or other roadways, which may be filled up or left partly unfilled for the purposes hereinbefore alluded to ; or a series of deal ends, composed of portions of a plank cut transversely, may be introduced between the hexagons, as represented, *v, n*, so as to leave a portion projecting above the surface to afford the hold for the feet of horses or other animals, as before stated.

Figures 21 and 22 is a plan and perspective view of a portion of another kind of roadway, formed of a series of parallelopipedon-shaped blocks, *w, w*, placed with the fiber vertical and having a portion of the upper part of each side cut away, so as to form continuous longitudinal and transverse channels extending over the whole surface of roadway in lines parallel to each other, whether the blocks be laid at right angles to each other or in a diagonal direction ; these channels may be left open, or so filled up with cement as to leave a slight space unfilled beneath the top surface to afford the hold to the horses' feet, as already described.

Figure 23 is a perspective representation of several other kinds of blocks suited to form a roadway ; these consist of blocks of the parallelopipedon shape before described, or they may be cubical, having a portion of the upper part of two sides cut away, as at *p, p*, and *q, q*, or with the under sides cut away either horizontally or obliquely, as seen at *r, r*, all of which blocks are so contrived that they adjust and correspond to each other, and may be used wholly to construct a roadway, or with advantage to close and key up parallel to the curbstone, when the greater portion of a

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roadway is formed by any of the other shapes herein set forth and described.

Figures 24 and 25 are perspective and plan views of several oblong road blocks of different forms, which have one or more sides formed by angles or curves, and which sides fit into corresponding angular or curved cavities, as seen at *s, s*, or only one side may be angular or curved, and the other side or sides have horizontal or oblique projections formed, as seen at *t, t*, corresponding with and fitting each other, and all of which are so constructed as to easily fit and combine into a whole surface, or a portion only of any of the forms may be used and adapted to finish the sides of a road, as herein-before set forth and described.

Having now fully described the nature of the said Invention, and the manner in which the same is to be carried into effect, I wish it to be understood that I claim as the Invention, the formation of a road inclined from the center to the sides thereof, constructed by hexagons, and keyed at the highest part thereof by the half pyramidal hexagonal wedges, as represented at Figures 1 and 2; and I wish it to be understood, that although I only mention the polygonal figure known as a hexagon, yet I do not mean to confine myself to that precise form, as any other polygon-shaped block may be used, and come within the principle of the Invention for the purpose herein described.

I also claim the construction of a roadway by polygonal or rhomboidal shaped blocks, as represented at Figure 3.

I also claim the formation of a public or private road or passage way by means of the upper and lower courses of blocks, as shown at Figures 10, 11, 12, and 13, whether formed of polygonal-shaped blocks, or blocks resembling cubes, parallelopipedons, triangles, or rhomboids, or of other forms.

I also claim the road blocks represented in Figures 23, 24, and 25, having angular or curved sides, or angular and concave sides, or having horizontal or oblique projections, or both united in one block, whether for the purpose of form-

Argument of counsel.

ing an entire road, or finishing and squaring up a road parallel to the curbstone, when such road is formed of blocks of different shapes.

I also claim the formation of a road by means of blocks as represented at Figures 21 and 22, with a portion of the upper sides so cut away as to form cavities, for the purposes hereinbefore described, whether such blocks are parallelopipedons, cubes, or polygons.

I also claim the formation of a roadway by means of such blocks as I have described and set forth in Figures 6, 7, 8 and 9.

In witness whereof, I, the said David Stead, have hereunto set my hand and seal, this Twenty-third day of August, in the year of our Lord One thousand eight hundred and thirty-nine.

D. [L. s.] STEAD.

And be it remembered, that on the twenty-third day of August, in the year of our Lord, 1839, the aforesaid David Stead came before our said Lady the Queen, in Her Chancery, and acknowledged the Specification aforesaid, and all and everything therein contained and specified, in form above written. And also the Specification aforesaid was stamped according to the tenor of the Statute made for that purpose.

Inrolled the Twenty-third of August, in the year of our Lord One thousand eight hundred and thirty-nine.

Messrs. L. Hill, J. N. Jewitt, and F. W. Becker, for appellant:

An examination of the patent discloses that the real invention claimed in it is a pavement having, *in combination, three elements.*

A combination of any two of these elements neither *anticipates* nor *infringes* the patent, because the specification and claim point clearly to the *three* combined elements as constituting the invention.

Imhaeuser v. Buerk, 101 U. S. 647 [12 Am. & Eng. 443;]

Argument of counsel.

Parks v. Booth, 102 U. S. 96 [12 Am. & Eng. 470;] *Bates v. Coe*, 98 U. S. 31 [12 Am. & Eng. 150.]

The alleged anticipating patents are all analyzed in complainant's original brief where it is shown that no one of them, prior to the date of Stow's invention, contained all the elements of the claim here in controversy.

The third claim of reissue No. 3,274 includes a kind of pavement which differs in some quite material respects from that specified in the first, though like the first in general principle.

The law permits an inventor who has made an invention, for which such claims are appropriate, to make both a broad and specific claim, and he may either take out two patents—one for each invention, or he may make the two claims in one and the same patent. *Hogg v. Emerson*, 6 How. 483 [5 Am. & Eng. 1.] Nor if one claim were void in the patent in which they were both claimed would the void claim vitiate the entire patent, provided it were made by mistake or inadvertence, without any intent to defraud or mislead the public. *Carlton v. Bokee*, 17 Wall. 403 [9 Am. & Eng. 91.]

Messrs. Lester L. Bond, F. Adams, and J. F. Bonfield, for appellee:

The first and third claims are in terms met in the English patent of David Stead, of 1839, and the third is identically met by Stead.

Stead does not say anything about packing the foundation by driving a portion of the blocks, except that he applies it to "newly-made embankments or shrinking-base;" while Stow says, "loose earth." They were both evidently doing the same thing in the identical same way, for the same purpose. If Stead never even had the idea (which the patent shows he did have,) that is wholly immaterial, as it is self-evident that the driving of Stead's wedge or pile blocks, will have the same effect as the driving of Stow's wedge or pile blocks. If it were not a thing that every one

Opinion of the court.

knew, the most that can be claimed for Stow, is, that if the driving of a portion of the pavement into the foundation has any beneficial effect upon the foundation itself, Stow made that discovery. Stead performed the act, so that even admitting that Stow made such a discovery, it is as applicable to Stead's pavement as to his own, and is, therefore, a mere philosophical discovery, which does not come within the purview of the patent law.

"A patent cannot be legally obtained for a mere philosophical or abstract theory." *Lowell v. Lewis*, 1 Mass. 187; *Whitney v. Emmett*, 1 Robb 567.

Mr. Justice Woods delivered the opinion of the court:

The appellant, Henry W. Stow, who was complainant in the court below, filed his bill in equity against the appellee, the city of Chicago, charging it with infringement of four certain letters patent for improvements in street pavements, in which he was either the original patentee or of which he was the assignee. The city of Chicago denied infringement, denied the novelty of the inventions covered by the patents, and alleged license and payment of royalties. Upon final hearing the court below dismissed the bill, and the complainant (a) appealed.

In this court the appellant relies exclusively on the first and fourth patents set out in his bill of complaint. They will be separately considered. The first patent relied on is the reissue, No. 3,274, dated January 19, 1869, of an original patent granted to him, numbered 72,110, and dated December 10, 1867.

The invention covered by the reissued patent is thus generally described in the specification: "The nature of my invention consists in putting down a pavement of wood or other suitable material upon a foundation bed of sand or loose earth, and packing the sand or earth by means of

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(a) Otto substitutes for "the complainant," "he "

Opinion of the court.

wedge-blocks driven down into the same and forming a part or whole of the pavement."

The pavement (*b*) described in this reissued patent consisted (*c*) essentially of blocks of wood or other material set upon end in rows across the street, with spaces between the rows in which were driven narrow and probably wedge-shaped blocks, which, when driven down, extended a considerable distance below the under surface of the blocks first named, into the foundation-bed of sand on which they rested. The claims were as follows :

" 1. A pavement composed of alternate tiers of square-ended and wedge-shaped blocks, the wedge-shaped ends of the latter being driven into a foundation-bed of sand or earth, substantially as and for the purpose described.

" 2. A pavement composed of blocks with lower ends wedge-formed, and all driven down into a foundation-bed of sand or earth, substantially as shown and described.

" 3. A pavement composed of wood, or in whole or in part of other suitable material, laid on a foundation-bed of sand or loose earth, as described, and a portion of the blocks driven down into said foundation-bed to pack the same, substantially as and for the purpose specified."

(*d*) The appellant does not contend that the second claim is infringed.

A cursory reading of the first and third claims will show that they cover the same invention, the third claim simply including with wood other suitable material out of which the pavement may be constructed.

The invention described in these claims does not cover the making of a street pavement of wood. The use of wood for that purpose is as old as the English patent of David Stead, granted August 23, 1839. The Nicholson patent, which bore date August 8, 1854, and which is referred to in the specification of the reissued patent under consideration, also covers

104 U. S. 548.

(*b*) Otto substitutes for from *b* to *c*, " consists "

(*d*) Otto substitutes for " The appellant " " He "

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a device for the construction of a pavement by the use of wooden blocks. Nor does the invention consist in laying the pavement upon a foundation bed of sand or earth. This is as old as cobble-stone pavements. See, *Stead v. Williams*, 7 Man. & G. 818. The appellant does not claim either of these devices as a part of his invention. No particular form of block is described in the claims, except that some of the blocks used have their lower ends made wedge-shaped. All, therefore, that there is left for the invention described in the first and third claims to cover is, the making of the lower ends of a portion of the blocks of which the pavement is composed in wedge shape, and the driving of these wedge-shaped blocks below the general under surface of the pavement into the sand or earth-bed on which it rests, so as to pack it and render it solid and unyielding.

When thus reduced to what it really is, the invention of the appellant is clearly and distinctly anticipated by the English patent issued to David Stead, dated April 23, 1839, which is set out in full in the record.

One of the drawings which accompanies Stead's specifications shows a pavement laid with contiguous rows of octagonal blocks, so placed as to leave rows of square unfilled spaces. In these square spaces were placed square blocks, longer than the octagonal blocks and wedge-shaped at the lower end, and these were driven down into the earth foundation upon which the octagonal blocks rested.

That part of Stead's specification which these figures illustrate, is as follows :

“ Figures 18 and 19 is a plan and side view of a portion of a roadway formed by a series of octangular blocks, L, L, placed with the fiber vertical. so as to leave a square recess or interval between them, into which may be inserted a corresponding piece, *m*. When this kind of paving is laid upon a road formed upon a newly-made embankment or shrinking base, I should recommend a pile to be driven into the earth through the square recess or interval, of about the size and

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form represented by the dotted lines, Figure 19, in order to support and keep the blocks firm in their position. When the octangular block paving is used for acclivities, I should recommend the before-mentioned cavities either to be left unfilled or not filled up to the surface, to afford an assistance to animals ascending the same as before described."

It is true this specification does not in terms say that the purpose of driving the wedge-shaped block or pile through the space left by the octagonal blocks is to pack the earth or sand foundation, but that it does so as effectually as the use of similar blocks in a similar way under the patent of appellant is too clear for argument. A patentee who is the first to make an invention is entitled to his claim for all the uses and advantages which belong to it. *Woodman v. Stimpson*, 3 Fish. Pat. Cas. 98.

It is shown that Stead invented this device. Whether he perceived and stated all its advantages is immaterial. *Tucker v. Spaulding*, 13 Wall. 453 [8 Am. & Eng. 474,] Mr. Justice Clifford in *Graham v. Mason*, 5 Fish. Pat. Cas. 1.

Stead's specifications, it is clear, cover (to use the language of Stow's reissued patent) "a pavement composed of wood laid on a foundation-bed of sand or loose earth," and having "a portion of the blocks of which it is composed driven down into said foundation-bed."

Everything, therefore, in the first and third claims of appellant's reissued patent, which he sets up as new, was anticipated nearly thirty years by Stead's English patent. Appellant's patent, therefore, so far as it covers these claims, is void, and cannot be the foundation of any relief against the appellee.

The other patent which appellant insists that the appellee (e) has infringed, is No. 134,404, dated December 31, 1872, issued to appellant (f) as the original inventor.

The invention covered by this patent is described in the

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(e) Otto substitutes for "appellee," "city"

(f) Otto substitutes for "appellant," "him"

Opinion of the court.

specifications thus: "The nature of my invention relates to that class of wooden pavements in which the blocks are laid directly upon the sand foundation; and it consists in laying the blocks in rows with spaces between the rows, and in filling or partially filling said spaces with sand or gravel and driving or swaging the same into the sand foundation below, in order to pack or compress the sand under the blocks, for the purpose of sustaining the weight of heavy vehicles passing over the pavement."

The claim is as follows: "A pavement composed of blocks laid in rows directly upon the sand foundation, with spaces between the rows filled with sand or gravel, which is swaged or driven into said foundation, substantially as and for the purpose specified."

The use of wood for street pavements, the laying of the blocks directly upon a sand foundation, the placing of the blocks in rows, leaving spaces between the rows, are all old devices. As already shown, they are all found to be substantially in the English patent of Stead, issued April 23, 1839, and they are found in the English patent to Lillie, dated October 13, 1860, and the American patent to Richard H. Willett, No. 114,895, and dated May 16, 1871—all of which are put in evidence by the appellee.

Nor is the filling with sand or gravel of the spaces between the blocks, or rows of blocks, of which the pavement is composed, a new device. It was part of the invention of Nicholson, see *Elizabeth v. Pavement Co.*, 97 U. S. 126 [11 Am. & Eng. 514.] and as appears by the record was mentioned in the specification of the letters patent, No. 112,945, issued to Gordon A. May, March 27, 1871. And in the specifications of the patent granted to W. H. Chappell, No. 42,347, dated April 19, 1864, set out in the appellee's evidence, it is stated that "Wooden pavements have been constructed on the continent of Europe and in the United States by laying wood blocks endwise of the grain in parallel rows with openings or channels between, into which gravel or gas-tar was placed."

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All, therefore, that is left for the patent of the appellant, now under consideration, to cover, is the ramming of the gravel between the blocks, of which the pavement is composed, so as to drive the same into the sand foundation below the blocks, in order to pack it so that the pavement may sustain the weight of heavy vehicles without giving way.

And this is all which seems to be claimed by appellant's (*g*) counsel as the invention covered by this patent. The evidence is distinct and clear that the invention thus defined was anticipated by the pavement (*h*) laid by J. K. Thompson, City Superintendent, (*i*) in the year 1864, at the intersection of North State and Kinzie streets, in the city of Chicago. This piece of pavement was made of wooden blocks, six inches square, set in rows, on an earth foundation, with spaces between the rows, and the spaces were filled with fine gravel, and the gravel rammed. This pavement was put down by Thompson as an experiment. It proved successful. It was in use until the great fire in Chicago in 1871.

The record further shows that in the fall of 1870, at the instance of Thompson, there was laid at the north end of the La Salle street tunnel, in Chicago, a (*j*) piece of pavement five hundred yards in length, constructed in the same manner precisely as that laid by him in 1864 at the intersection of North State and Kinzie streets. It was made with similar wooden blocks, placed in rows on an earth foundation, with spaces between the rows; the spaces were filled with gravel, which was rammed with an iron rammer, made expressly for the purpose. We have here every part of the invention described in the letters patent under consideration, except that it does not appear that the gravel in the

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(*g*) Otto substitutes for "appellant's," "his "

(*h*) Otto substitutes for from *h* to *i*, "which J. K. Thompson, City Superintendent laid "

(*j*) Otto substitutes for "a," "another "

Notes and citations.

spaces between the rows was so compactly rammed as to drive it below the under surface of the pavement into the earth foundation. All, therefore, that is left for the appellant's patent of 1872 to cover is, the giving of a few more strokes with the rammer, whereby the gravel filling may be forced into the earth foundation of the pavement. Can this be called invention?

The testimony shows that the pavements which the appellant charges to be infringements of his patent of 1872, are constructed according to the plan adopted by Thompson in 1864, and it fails to show that in their construction the gravel filling was forced by the ramming into the earth foundation on which the pavements (*k*) were laid. So that if there is anything new or patentable embraced in the appellant's (*l*) patent of 1872, that part of his device is not infringed by appellee (*m*).

Therefore, without noticing the other defences, we declare our opinion to be that the appellant (*n*) is not entitled to any relief against the appellee (*o*) upon either of the patents on which his demand for relief is now based. His case, as presented here, has no ground to stand on. (*p*) *The decree of the Circuit Court dismissing his bill must, therefore, be affirmed.* (*q*)

Mr. Justice FIELD did not sit in this case, and took no part in its decision.

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- (*k*) Otto substitutes for "the pavements," "they "
- (*l*) Otto substitutes for "the appellant's," "his "
- (*m*) Otto substitutes for "appellee," "the city."
- (*n*) Otto substitutes for "the appellant," "he "
- (*o*) Otto substitutes for "appellee," "city "
- (*p*) Otto substitutes for from *p* to *q*, "Decree affirmed."

Notes :

2. The first inventor is entitled to all the uses and advantages of his invention:

Notes and citations.

Roberts *v.* Ryer, 91 U. S. 150 [10 Am & Eng. 302.]

Patent in suit:

No. 72,110. Stow, H. W. December 10, 1867. Reissue

No. 3,274. January 19, 1869. Pavement.

No. 134,404. Stow, H. W. December 31, 1872. Pavement.

OTHER SUITS ON SAME PATENT :

Stow *v.* City of Chicago, 1877. 8 Biss. 47; 3 Ban. & Ard. 83.

Cited:**IN SUPREME COURT IN :**

Heald *v.* Rice, 1882. 104 U. S. 737; Bk. 26 L. ed. 910 [p. 460 *post.*]

Brown *v.* District of Columbia, 1889. 130 U. S. 87.

IN CIRCUIT COURTS IN :

New Process Fermentation Co. *v.* Koch, May, 1884, 21 Fed. Rep. 580.

Leonard *v.* Lovell, December, 1886. 29 Fed. Rep. 310.

Notes and citations.

IN TEXT-BOOKS:

2 Abb. Pat. Laws, 1886, pp. 40, 304.

Walker on Pats., 1883, p. 38.

Syllabus.

JOHN L. HEALD, PLAINTIFF IN ERROR, v. HARVEY W. RICE.*

104 (14 Otto) U. S. 787-757. Oct. Term, 1881.

[Bk. 26 L. ed. 910; 21 O. G. 1443.]

Reversing Rice v. Heald, 13 Pacific Law Journal, 33.

Argued January 4, 5, 1882. Decided March 6, 1882.

Particular patent construed. Reissue for different invention. Identity of original and reissue. Machine cannot be reissued for process. Want of novelty—of invention. Analogous use.

1. Where, on comparison made by the court of reissued letters patent, No. 6,422, H. W. Rice, May 4, 1875, Steam Boiler, with the original patent, No. 146,614, January 20, 1874, it appeared from the mere reading of the two specifications that the invention described in the original was for the return-flue boiler, while that described in the reissue, abandoning the claim for the boiler itself, was for a particular mode of using it, with straw as a fuel, by means of an attachment to the furnace-door for that purpose. *Held*, that these two inventions were distinct, and a patent originally issued for one could not lawfully be surrendered as the basis for the reissue of the other. (p. 487.)
2. In cases of reissues of patents, inoperative or invalid by reason of a defective or insufficient specification, or by reason of the patentee claiming as his own invention or discovery more than he had a right to claim as new, it is imperative that the new patent, when issued, shall be for the same invention, and that no new matter shall be introduced into the specification when, as in the present case, there is a drawing, with reference to which the invention is described. (p. 487.)
3. If it appears from the face of the instruments that extrinsic evidence is not needed to explain terms of art or to apply the descriptions to the subject-matter, so that the court is able from mere comparison to say what are the inventions described in each, and to affirm from such mere comparison that they are

* See Explanation of Notes, page III.

Syllabus.

not the same but different, then the question is one of pure construction and not of evidence. It is a matter of law for the court without the aid of a jury. It is not a matter of fact to be passed upon by a jury if it is clear from the facts withstanding what was said in *Battin v. Taggart* [6 Am. & Eng. 243.] (p. 488.)

4. The rule reiterated that a patent is not to be construed more than for the use of the particular machine for which it was issued for a different invention. *Campbell v. Miller* [p. 341 *ante.*] (p. 493.)
5. Claim 1 of reissued letters patent, No. 13,875, 4, 1875, Steam Boiler, for "the boiler, C, grate, D, return flues or tubes, and B, in combination with the straw-feeding mechanism, substantially as and for the purpose specified and anticipated by reissued letters patent of May 4, 1875, (original patent No. 13,875) Straw-feeding attachments for furnaces, the combination of the feeding-tube with the engine or boiler, necessarily including the feeding-tube with the return-flue, and the application of the feeding-tube to the boiler, is within the scope and provision of Morey's patent, and has been tested by his experience or was obvious to him at the time of his sight or not. It is a mere analogous

[Citations in the opinion of the court:]

James v. Campbell, 104 U. S. 356 [p. 341 *ante.*]
Miller v. Brass Co., 104 U. S. 350 [p. 303 *ante.*]
Burr v. Duryee, 1 Wall. 531 [7 Am. & Eng. 243.]
Powder Co. v. Powder Works, 98 U. S. 139 [p. 493.]

Battin v. Taggart, 17 How. 74 [6 Am. & Eng. 243.]
Bischoff v. Wethered, 9 Wall. 812 [8 Am. & Eng. 243.]
Seymour v. Osborne, 11 Wall. 516 [8 Am. & Eng. 243.]
Hall's Patent, 1 Web. Pat. Cas. 98. p. 49
Losh v. Hague, 1 Web. Pat. Cas. 207 [2 Am. & Eng. 243.]
Hotchkiss v. Greenwood, 11 How. 248 [5 Am. & Eng. 243.]
Hicks v. Kelsey, 18 Wall. 670 [9 Am. & Eng. 243.]
Stow v. City of Chicago, 104 U. S. 547 [p. 42 *ante.*]

Statement of the case.

In error to the Circuit Court of the United States for the District of California.

The case is stated by the court.

The specifications and drawings of Morey's letters patent and the drawings of Rice's original and reissued letters patent referred to in the opinion are as follows :

DAVID MOREY, OF WATSONVILLE, CALIFORNIA.

IMPROVEMENT IN STRAW-FEEDING ATTACHMENTS FOR
FURNACES.

Specification forming part of Letters Patent, No. 135,659, dated February 11, 1873 ; reissue No. 6,420, dated May 4, 1875 ; application filed April 8, 1875.

To all whom it may concern :

Be it known that I, David Morey, of Watsonville, Santa Cruz county, State of California, have invented a Straw-Feeding Attachment for the Furnaces of Thrashing-Engines ; and I do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention without further invention or experiment.

My invention relates to an attachment for the doors of boiler-furnaces, and which is more particularly applicable to the doors of the furnaces used on thrashing-engines. The object of my furnace attachment is to enable straw to be fed into the furnace to serve as a fuel, and thus economize in the running of the engine by utilizing the waste straw. My straw-feeding attachment consists of a metal box or tube, open at both ends, and secured horizontally to one side of the furnace-door opening by hinges, so as to serve as a door to the furnace at the same time that it serves as a straw-feeder.

D. MOREY.

Straw-Feeding Attachment for Furnaces.

No. 6,420.

Reissued May 4, 1875.

Fig. 1.

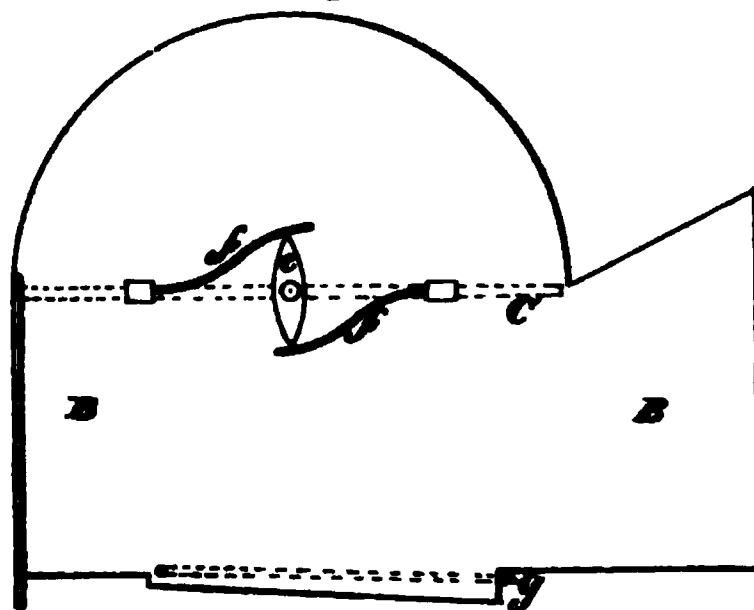
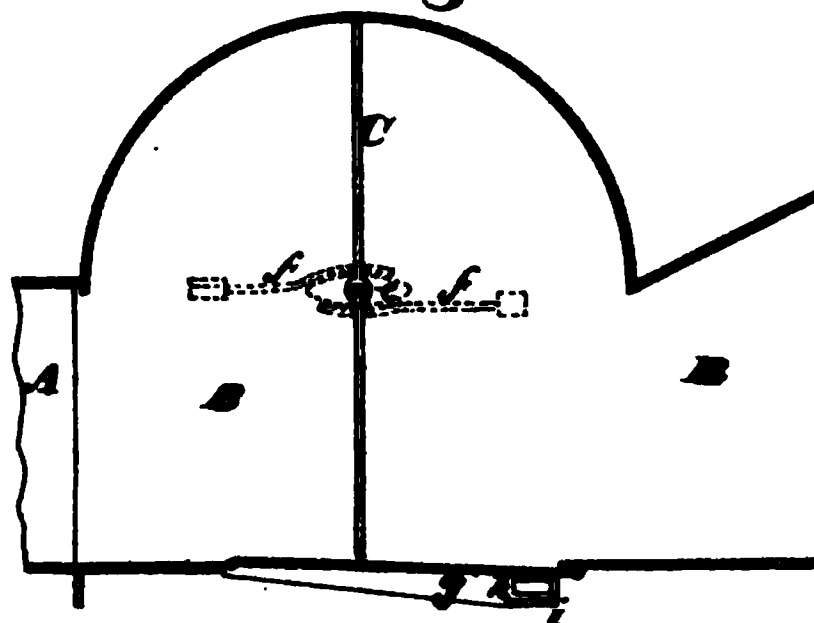


Fig. 2.



Witnesses

Geo. H. Strong.
John L. Boone

Inventor

David Morey
by Denny & Co.
Attys

H. W. RICE.
Steam-Boilers.

No. 146,614.

Patented Jan. 20, 1874.

John L. Boone,
C. M. Richardson,

^{INVENTOR.} Harvey Wood Rice.
By Lawrence D.
Attys.

H. W. RICE.
Steam-Boiler.

No. 6,422.

Reissued May 4, 1875.

Fig. 1.

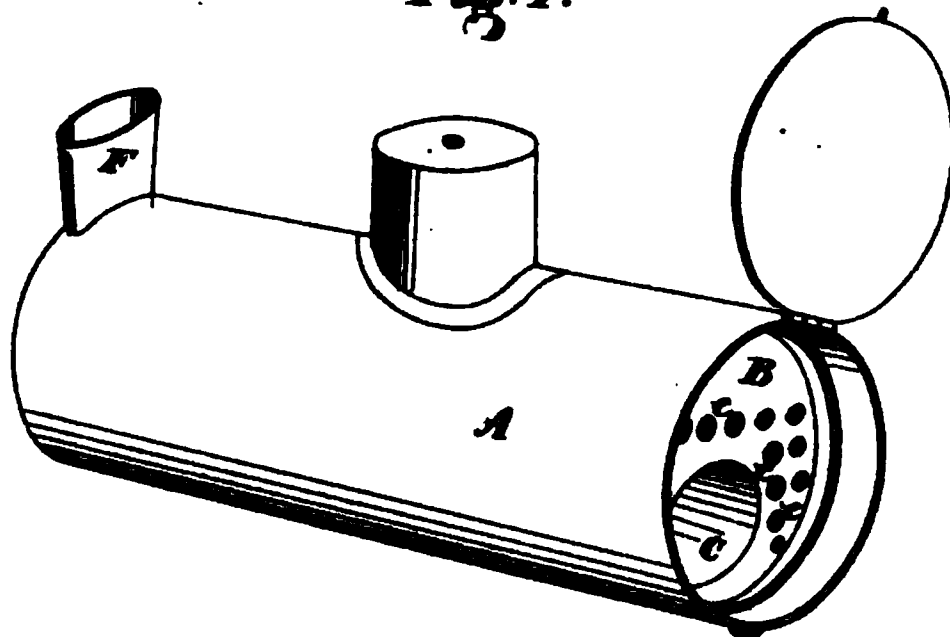


Fig. 2.

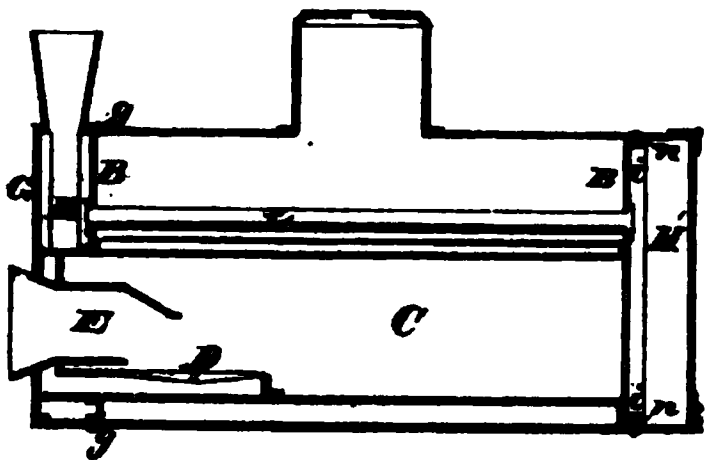


Fig. 3.

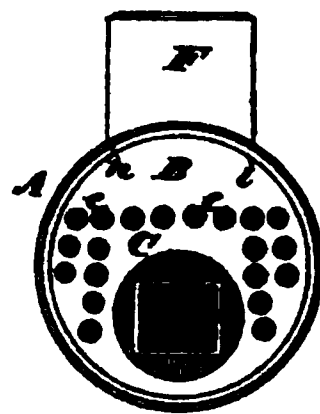


Fig. 4.

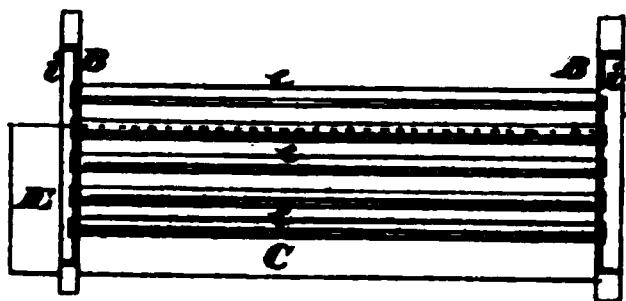
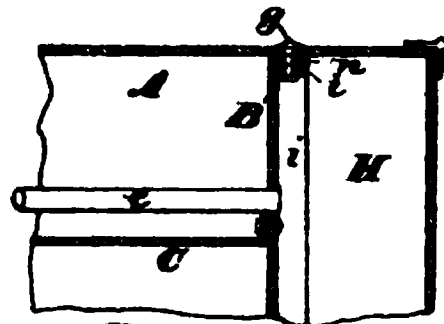


Fig. 5.



Witnesses
Geo. H. Strong.
for L. Dorn

Inventor
Harvey Wood Rice
by Dewey & Co
Attys

Oct., 1881.]

HEALL

Statement

In order to more fully illustrate, reference is had to the accompanying part of this specification.

Figure 1 is a side elevation and longitudinal section.

Let A represent the furnace and a box-shaped attachment, whether of iron or other suitable material. The box is hinged at one end and has one end attached to the furnace-door-opening, so that it can be opened in the same manner as a furnace-door. When the furnace-door is open the box lies horizontal in the doorway of the furnace, and is closed, as shown. The upper side of the box is hinged so as to form a chamber inside. Inside of this chamber is a revolving partition suspended upon journals at each end, and passing through the sides of the box. The upper part of the box is made semicircular, so as to be revolved, while its lower part is flat, forming the bottom of the box, and also the bottom of the chamber. A partition is hinged to both sides of the chamber. A cam is attached to the journals upon which the partition is hinged, and each one has a flat spring, *f f*, attached to it. Flat springs, *f f*, are also attached to the outside of the box, so that the cam can be moved to the opposite sides of the chamber from the flat springs, to keep the partition in the proper position and prevent a draft. In the side view of the partition, C, an opening is shown in the section, *g*. This section is hinged to the end nearest the furnace-door, and is supported from below by a support. When the partition, C, is in its closed position at right angles to the hinged section, the opening, *g*, is to be closed, and prevent the entrance of air.

Statement of the case.

pushed through the tube ; but it is evident that by leaving the tube or box filled, so as to choke the opening through it, the partition or door can be dispensed with. The straw is introduced into the furnace through the hopper of the box, B, by means of an ordinary hay-fork. The fork-load of straw is placed against the lower end of the partition, C, and pushed through the box, the pressure turning the partition to a horizontal position to admit the hay or straw. As soon as the fork is unloaded and withdrawn, the partition is closed automatically by the springs, *f f*, which act upon the cams, *e*, thus making a half-revolution each time a fork-load of straw is introduced, and immediately closing again, so as to shut off the draft, which is very injurious to the furnace when not admitted in the proper place. In case any straw or other substance should lodge upon the hinged bottom of the box the partition would not be prevented from closing, as the pressure upon it would force the spring end of the bottom downward until it could close.

With this attachment I am enabled to utilize the straw from thrashing-machines for the purposes of making steam, and at the same time effecting a great saving in fuel.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In combination with the furnace, A, of a thrashing-engine, the detachable box or tube, B, provided with a flaring mouth, the base of the tube projecting from the furnace at, or nearly at, a right angle to the front of the furnace, substantially as and for the purpose set forth.

2. In combination with the furnace, A, of a thrashing-engine, the box or tube, B, provided with a flaring mouth, and having the partition or door, C, substantially as and for the purpose set forth.

3. In combination with a steam-boiler furnace, the detachable feeding-box, B, having the revolving partition, C, and hinged spring-section, *g*, substantially as and for the purpose set forth.

4. In combination with the feeding-box, the revolving

Argument of counsel.

partition, C, elliptical cams, *e*, and oppositely-acting springs, *f f*, substantially as and for the purpose above described.

DAVID MOREY.

Witnesses :

A. J. JENNINGS,

J. S. MENASCO.

Messrs. George Harding, M. M. Estee, and John M. Boalt, for plaintiff in error:

A brief examination of Rice's original patent will be sufficient to show that when he filed his specifications he supposed himself to have invented the return-flue boiler. He, therefore, described it carefully in exact language, expecting to be allowed a patent for it. In reality he had only invented a peculiar manner of fastening the tubes and tube-sheets, and to this was his patent limited.

We now come to the reissued patent. We find ourselves at once in new latitudes. At the very outset he says: "My invention relates to the *combination* of a straw-feeding device with the furnace door of that class of boilers which are known as return-flue boilers," etc. We have seen that in the original patent his invention related to improvements in the *construction* of steam boilers. Now, we have got our steam boilers already constructed and are combining them with other devices.

In the original patent he used "any suitable feeder." In the reissue he employs the straw-feeding tube, E. There was no E in the original drawing.

Enough has already been said to show that the interpolations are in the strongest sense material.

Without this "new matter" it would be impossible to support the claim for the combination mentioned in the complaint, and upon which the action was brought. It is in fact just such new matter as is described and prohibited in the case of Powder Co. v. Powder Works, 98 U. S. 138 [12 Am. & Eng. 201.]

Argument of counsel.

It may be urged that, conceding that the first claim of the reissue is invalid for the reasons given, still the second claim remains intact, and that at the time when the objection was interposed there was nothing to show that the defendants had infringed that claim.

We reply that the only invention described in the complaint was that secured by the first claim. Again the statute authorizing the granting of reissues, gives jurisdiction to the Commissioner to grant reissues only for the same invention described in the original patent, and without new matter. If, then, he grants a reissue for other or different inventions, or containing new and substantive matter, it would seem that he had exceeded his jurisdiction in granting any reissue at all, and the whole patent would be invalid.

Mr. Milton A. Wheaton, for defendant in error:

There is nothing claimed in the reissued patent except what was distinctly shown and described in both the specifications and drawings of the original. There is nothing added to the patent except to make the old specification more definite and to change the claims to correspond with the invention laid open and made patent to the world by the original patent. This was all proper. The rule laid down by this court in *Seymour v. Osborne*, 11 Wall. 544 [8 Am. & Eng. 290,] has never been departed from by this court.

Rubber Co. v. Goodyear, 9 Wall. 788 [8 Am. & Eng. 150;] *Morey v. Lockwood*, 8 Wall. 230 [8 Am. & Eng. 78;] *Whiteley v. Swayne*, 7 Wall. 685 [8 Am. & Eng. 70;] *Collar Co. v. Van Deusen*, 23 Wall. 530 [10 Am. & Eng. 156;] *Russell v. Dodge*, 93 U. S. 463 [10 Am. & Eng. 495;] *Sarven v. Hall*, 5 Fish. 415; *Chicago Fruit Co. v. Busch*, 4 Fish. 400; *Aultman v. Halley*, 6 Fish. 537; *Hoffheins v. Brandt*, 3 Fish. 227.

So far as Morey's knowledge went, there were no steam boilers to which his straw-feeding devices were applicable except the fire-box boilers. He applied his devices to fire-

Argument of counsel.

box boilers and found that they were of some advantage; but after he had taken out his patent, found, by actual trial in the harvest fields, that what he had invented and discovered was inadequate to effect the desired object. He failed in making his steam boilers and straw-feeders furnish the requisite steam for practical thrashing.

Rice, however, stepped in and made the discovery that by substituting the return-flue portable boiler for the fire-box boiler in Morey's combination a new and better result was obtained.

The difficulties which Morey encountered and failed to overcome, with the explanation of the method by which Rice did overcome them, are well stated in the reissued patent.

Would not the new combination discovered by Rice be at least a patentable improvement upon the first invention?

The rule is to apply evidence of the state of the art, or in other words, the *res gestae*, and ascertain just what the patentee invented, and make his patent exactly commensurate with the invention, if the language of the patent will permit it to be done. *The patent is measured by the invention*, and not the invention by the patent. This is a rule which this court has repeatedly invoked.

Railway Co. v. Sayles, 97 U. S. 563 [12 Am. & Eng. 121;] Ashcroft v. Railroad, 97 U. S. 189 [12 Am. & Eng. 1;] Garneau v. Dozier, 102 U. S. 234 [12 Am. & Eng. 545;] Railroad Co. v. Dubois, 12 Wall. 41 [8 Am. & Eng. 433;] see also, Burden v. Corning, 2 Fish. 489; Taylor v. Garretson, 5 Fish. 124; Woodman v. Stimpson, 3 Fish. 98; Hale v. Stimpson, 2 Fish. 570; Roots v. Hindman, 6 Fish. 443; Swift v. Whisen, 3 Fish. 355.

Rice began his discoveries and invention where Morey left off. The patents and evidence all show that both Morey and Rice made valuable inventions. It took all that they both did to attain success. If Morey had not begun, Rice would never have finished. If Rice had never finished the subject, what Morey did would have been practically lost;

Opinion of the court.

because he failed in carrying his inventions far enough to make them financially successful.

The law in such a case is simply this, viz: That both Morey and Rice were each entitled to patents for their respective inventions.

The case of *Hall v. Jarvis*, 1 Web. Pat. Cas. 97, has always been regarded as a leading case in patent law, both in England and the United States. In that case the invention consisted in substituting the flame of gas for the flame of tallow or other combustibles in singeing lace, and in discovering that the gas flame was better for that purpose than the other flames for which it was substituted. See also, *Bates v. Coe*, 98 U. S. 42 [12 Am. & Eng. 150;] *Fuller v. Yentzer*, 94 U. S. 300 [11 Am. & Eng. 176;] *Smith v. Nichols*, 21 Wall. 118 [9 Am. & Eng. 425;] *Curtis on Pats.* §§ 127 to 130.

Better results are greater utility, and greater utility is evidence of novelty, and discovering a new and useful improvement is invention. *Many v. Sizer*, 1 Fish. 27; *Forbush v. Cook*, 2 Fish. 672; *Smith v. Goodyear D. V. Co.*, 93 U. S. 495 [11 Am. & Eng. 1.]

Unless the suggestion is ancillary or subordinate to the original plan, and is adopted and carried into practical effect by the original inventor to whom it is made, it does not become his property. *Agawam Co. v. Jordan*, 7 Wall. 583 [8 Am. & Eng. 24.]

Mr. Justice MATTHEWS delivered the opinion of the court:

This was an action at law brought by Rice (a) to recover damages for an alleged infringement of reissued letters patent, No. 6422, granted May 4, 1875, to him for improvements in steam-boilers. The original patent was No. 146,614, dated January 20, 1874. The invention, as stated in the complaint, consisted, among other things, of a combination of a straw-feeding attachment with the furnace-door of a return-flue

104 U. S. 737.

(a) Otto substitutes for "Rice," "Henry W. Rice against John L. Heald."

Opinion of the court.

steam-boiler, for the use of straw alone as fuel, in generating steam ample for practically operating steam-engines.

The case was tried by a jury, and resulted in a verdict and judgment for the plaintiff; to reverse which this writ of error is prosecuted.

A bill of exceptions sets out the exceptions of the plaintiff in error to the rulings of the court below, and all the evidence. The court was asked at the close of the plaintiff's testimony, and again when all the evidence on both sides had been introduced, to instruct the jury to return a verdict for the defendant, the refusal to do which, amongst other rulings, is assigned for error, and thus the whole case on the merits is brought here for review, so far as they rest upon questions of law.

The plaintiff below introduced in evidence his original and reissued patent. For the purpose of comparison, which, in view of the questions of law raised, becomes important and necessary, the specifications and claims are exhibited here in parallel columns, using one copy for both patents, when they are identical, and putting all the language that is in the original and not in the reissued patent in the left hand column in italics, and putting in the right hand column, in italics, all the language used in the reissued patent, that is not in the original.

“ Specifications forming part of letters patent, No. 146,614 dated January 20, 1874.

Reissue No. 6,422, dated
| May 4, 1875,

application filed

November 3, 1873,

| March 17, 1875.

“ *To all whom it may concern :*

“ Be it known that I, Harvey Wood Rice, of Haywood, Alameda county, State of California, have invented new and useful improvements in steam-boilers; and I do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science

Opinion of the court.

to which it most nearly appertains to make and use my said invention without further invention or experiment.

“ My invention relates to

certain improvements in the

construction of steam-boilers,

whereby I am enabled to util-

ize straw and other light sub-

stances for fuel, so that a

complete combustion of the

smoke is attained, and the

the combination of a straw-feeding device with the furnace door of that class of boilers which are known as return-flue boilers, by which combination I am able to provide a superior arrangement for utilizing straw as a fuel for generating steam.

Many attempts have heretofore been made, both in this country and in Europe, to successfully utilize straw as a fuel for generating steam in steam-boilers; but these attempts have always resulted in failures or partial failures.

When straw is fed into the furnace of an ordinary steam-boiler, it burns too quickly to do much good in heating the water in the boiler, until a sufficient quantity of cinders accumulates upon the grate-bars to impede the draft; and unless the cinders are frequently removed from between the grate-bars, they soon accumulate to such an extent as to choke the draft entirely and prevent combustion.

Many devices have been tried and patented for overcoming these troubles; but, as far as I am aware, none of them have succeeded in remedying the difficulties sufficiently to make the

Opinion of the court.

danger from fire in the har-

vest fields, where those boilers

are more especially useful. is

entirely obviated; and

straw-burning engine a practical success.

My experiments, however, have developed the fact that, by attaching a tube or box-door to the furnaces of that class of boilers known as return-flue boilers, in which the chimney or stack is constructed directly above the furnace, and the heat and products of combustion from the furnace are carried along under the boiler, and then returned back to the stack through flues or tubes leading through the length of the boiler, the combustion will be so complete that no sparks and but very little smoke, will escape from the chimney, and the straw will be burned freely, giving out a high degree of heat without danger of choking the grate-bars.

My invention also relates to a novel method of securing the tubes and tube-sheet within the shell of the boiler, so that they can be at any time easily removed for the purpose of cleaning or repairing, and at a much less expense than is ordinarily entailed for such work.

“ Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a perspective view

exposing the tube sheet of one end of the boiler. Fig. 2 is a longitudinal section. Fig. 3 is an end view with rear head removed. Fig. 4 shows the tube and tube-sheet removed. Fig. 5 is an enlarged view showing the rear tube-sheet, flange, and ring.

of my boiler from the rear end. Fig. 2 is a sectional elevation. Fig. 3 is a rear end view with cap removed. Fig. 4 is a view of tubes and sheet. Fig. 5 is an enlarged view, showing the manner of securing the tube-sheet in the shell.

Opinion of the court.

“A is the shell of my boiler, which is more especially intended to be used for that class of engines employed in thrashing and other field work where there is straw or other light material enough for fuel, but which has never been satisfactorily burned without an artificial draft or blast, and which has always been dangerous by reason of the sparks thrown out on account of incomplete combustion.

“In order to remedy these faults, and perfectly consume all the smoke and sparks, I perforate my tube-sheet, B B, so as to admit one large

tube

furnace

C, near the bottom, which receives the fuel upon the grate, D, and acts at the same time as a tube and fire-box.

Any suitable feeder may be employed to supply straw to the grate, but I have found the device patented by D. Morey, June 20, 1873, to be very suitable.

To the door of the furnace, C, I attach a straw feeding tube, E, through which the straw or other light fuel is fed to the furnaces.

This tube can be constructed in the manner described by David Morey in his patents dated February 11, 1873, and May 25, 1873, for straw-feeding attachment for furnaces, or in some other similar manner for feeding the straw without admitting a draft of air.

“Above and around the sides of the large

tube

furnace

C, I place small or locomotive boiler tubes, *ee*, as shown, and these serve to return the heat and the products of combustion to the chimney, F, which is located at the front end of the boiler, and communicates with the chamber, H, formed between the flue-sheet and the head or door, G. A similar chamber, H', is formed at the back end of the boiler, into which the products of combustion pass from the large

Opinion of the court.

*tube**furnace*

C, before entering the return flues, *e*.

“By this construction the light fuel is thoroughly ignited in its passage through the large tube, which has plenty of air admitted for the purpose. The heat and flame will be concentrated in returning through the small flues, and the combustion will be so complete that no sparks and but very little smoke will escape from the chimney, and this latter will not even need a bonnet.

“The tube-sheets, B B, are made with a flange, *i*, which is turned outward, and these flanges are pierced, so as to admit screw-bolts, or rivets, *g*, as may be preferred. These bolts secure the tube-sheets in their places perfectly steam and water tight.

“Whenever, by reason of long use, there is a collection of scale or sediment, or if the tubes or the interior of the boiler need repairing, the screw-bolts can be removed ; or if rivets are used, they can be cut off, when the two tube-sheets, with the tubes, can be removed from the shell in a body, and repairs or cleaning can be easily effected with much less time and trouble than when the boilers are made in the ordinary manner.

“The flange on the rear tube-sheet is turned so much smaller than the interior of the shell that an iron ring, *n*, can be introduced between it and the shell, the bolt passing through it.

“When it is necessary to remove the tubes and sheets, this ring can be taken out after removing the nuts and rivets, and this leaves the rear tube-sheets small enough to pass any rivets or obstructions freely when taking it out.

“By this construction I am enabled to make a boiler and furnace in which straw can be used as a fuel with perfect safety, and in which repairs can be easily effected.

“Having thus described my invention, what I claim, and desire to secure by letters patent is :

Opinion of the court.

1. *The boiler, A, having the furnace, C, grate, D, return flues or tubes, e e, and stack or chimney, B, arranged as described, in combination with the straw-feeding furnace-door attachment, substantially as and for the purpose described.*

“2. In a horizontal steam-boiler the

large tube

furnace

C, formed with a grate, D, to serve as a fire-place, in combination with small return-flues, *e e*, when the tubes and tube-sheets are secured by flanges, *i*, and bolts, *g*, so as to be removable from the shell in a body, substantially as and for the purpose described.”

It is admitted that there had been no infringement by the defendant of the second claim of the reissued patent, which included that feature of the improvement described, which consisted in the peculiar construction by which the tubes and tube-sheets were secured by flanges and bolts, so as to be removable from the shell in a body. This claim, therefore, is excluded from further consideration in the case.

The patents of David Morey for a straw-feeding attachment (*b*) referred to in the specifications in the Rice original and reissued patent, consisted of an original patent, No. 135,659, dated February 11, 1873, reissued as reissue, No. 6,420, dated May 4, 1875, and original patent, No. 139,075, dated May 20, 1875. (*c*)

The specifications of the latter describe the invention as relating to “An improved furnace-door attachment, which is especially intended for facilitating the use of straw as a fuel, especially applicable to the removable furnaces of thrashing-machine engines; and it consists in attaching to the opening of the furnace, intended for the door, a tube or

104 U. S. 742.

(*b*) Otto inserts “for furnaces”

(*c*) Otto substitutes for “1875” “1873.”

funnel, having arranged within it a tube with its lower end turned up into a valve, so that it can be inserted into the furnace and closed, so that no air can fly out, nor a draft of air allowed therein declared that the straw was introduced into the tube by means of an ordinary hay fork, and is pushed through the tube, the valve being closed, so as to allow the straw to pass through the tube, and immediately drop down and cut off the draft of air, which would otherwise be admitted into the furnace, to the detriment of the fire. The claim of the patent is for a movable tube or funnel, having an adjustable valve with its lower edge turned up into a valve with a furnace, as set forth."

In the reissued Morey patent a detachable box or attachment is substituted for the tube, and a valve, suspended upon and revolving upon a pivot, kept in position by means of springs, the object of the invention is to keep the box or tube closed, so that no draft of air after the straw has been introduced into the tube; though the specification adds that the box, by leaving the tube or box filled, so that the draft of air through it, the partition or door can be closed. The straw is introduced into the furnace through the upper part of the box, by means of an ordinary hay fork, and a fork-load of straw is placed against the partition and pushed through the box, so that the partition to a horizontal position, and the straw is introduced. As soon as the fork is unloaded, the partition is closed automatically by turning the box through a half revolution each time a fork-load of straw is introduced, and immediately closing against the draft. The claim of the reissued patent is for a box, in combination with the furnace of the Morey patent, the detachable box or tube, provided with a valve at the base of the tube projecting from the

Opinion of the court.

at a right angle to the front of the furnace, substantially as and for the purpose set forth ;” and, second; “In combination with the furnace of a thrashing-engine, the box or tube, provided with a flaring mouth, and having the partition or door, substantially as and for the purpose set forth.”

The following is a statement in the language of counsel for the defendant in error, of what he claims to be the proof, on the trial of the cause, as contained in the bill of exceptions, showing the state of the art and the history of the inventions attributed to Morey and Rice respectively :

“For many years before the invention, thrashing-machines had been driven by steam as a motive power. In generating steam, portable fire-box boilers had been used. Such fire-box boilers were about like the ordinary locomotive boilers in common use. They had a fire-box furnace and a number of tubes or flues passing from one end to the other through the water in the boiler. The fire and products of combustion passed from front to rear through such tubes or flues, and thence out through a smoke-stack placed at the end of the boiler farthest from the furnace.

“Wood or coal was used for fuel with such fire-box boilers. During all this time it had been a great *desideratum* to substitute straw as fuel, in place of wood and coal. In California, in most grain districts, wood and coal were very expensive, and were inconvenient on account of having to be transported to the harvest fields, and from place to place in the fields as the thrashing-machine was moved from one spot to another, as one section of the field was thrashed and another about to be commenced. The transportation of the wood and coal for fuel required teams and men at a time when all were needed in the harvest fields for other purposes. At the same time, where the thrashing was done, there was always an accumulation of straw which was of no value, and which the farmers were glad to burn to get it out of the way.

“With the portable engines and boilers then in use,

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any advantage in substituting the return-flue boiler for the fire-box boiler or not. Rice was the only man that thought the return-flue boiler was the better for the purpose.

“Morey then licensed the firm of Treadwell & Co. to make and sell his invention. The exhibitions of Morey had created a belief that straw could be used for fuel in generating steam for running thrashing-machines, and that very season (1873) many of the heaviest firms in San Francisco, and Morey himself, used and exercised their means and abilities to make the invention practically successful. Hawley & Co. tried it. Baker & Hamilton tried it. Treadwell & Co. tried it and Morey tried it. *Some of the partners or engineers of each of the said firms had witnessed the exhibition with the return-flue boiler at Hayward's.* Yet each of said firms and Morey himself made all their subsequent tests in the season of 1873 *with fire-box boilers and they all failed.* They all gave up the invention after testing it that season, and believed that their tests and experiments had proved that straw could not be successfully used for fuel in generating steam for running thrashing-machines. *Not one of them thought for a moment that anything could be gained by substituting the return-flue boiler for the fire-box boiler.* All of them worked and experimented with the fire-box boiler, and when they found it impossible to make that do the work with the straw-feeding attachment, *they believed that they had exhausted the subject by proving that it was impossible to utilize straw for fuel, as desired, by any possible means.* Yet they had all seen or thoroughly understood all that was shown or proved by the test and exhibition with the return-flue boiler at Haywards in the previous month of March.

“Rice alone believed in the advantages of a return-flue boiler combined with the straw-feeding attachment. Rice alone went into the harvest fields with the return-flue boiler and straw-feeding attachment, and it proved entirely successful. Rice did not know at the time what the other

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parties were doing, neither were they informed of what Rice was doing. Rice's operations in the thrashing season of 1873 were in different sections of the country from where the other parties were experimenting. While all the other parties were by their experiments with fire-box boilers proving that straw could not be utilized for fuel as desired, *Rice alone proved that it could be so utilized*, by substituting the return-flue boiler for the fire-box boiler. Rice was the first and only one that suggested the combination of the return-flue boiler with the straw-feeding attachment, and he was the only one that tested and proved its advantages, and except for this individual and independent idea and action of Rice, there is no reason for supposing that the great advantages of using straw for fuel in the harvest fields would have been enjoyed to-day."

It further appears from the testimony of Rice that he considered the main principle of his invention to be combining the arrangement, patented by Morey, with the return-flue boiler. He supposed at first that his invention covered the boiler itself, though he found afterwards that it was not new, but was on the contrary well known as the Cornish boiler. The main difficulty he claimed to overcome by his invention, was in preventing air from being admitted when the straw was fed into the furnace. He says: "I took his (*Morey's*) tube, and attached it to this boiler (*the return-flue boiler,*) and it was a success." The act of invention he specified to consist in "combining the two together."

The contention on the part of the defendant in error is set forth in the language of his counsel in argument, as follows:

"Applying the rules of law to the Morey and Rice patents, and (admitting Morey's patents to be valid) the following are the extent and limits of their respective inventions, *viz.*: Morey discovered that by attaching a straw-feeding tube with a door in it to prevent a draft of air through it, to portable locomotive or fire-box steam-boilers, straw could be used with them for fuel more effectively

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than it could be without such tube. The combination of a straw-feeding tube which would prevent a draft of air through it, with portable steam-boilers, was Morey's invention. The discovery that a draft of air must not be admitted between the top of the fire and the bottom of the boiler was his discovery. All of Morey's discoveries and inventions, however, were insufficient to make portable steam-boilers adequate to the one great task which it was so desirable for them to perform, *viz.* : that of running thrashing-machines with only straw for use as fuel.

"Rice began his discoveries and invention where Morey left off. Morey's patents were both issued before Rice had given the subject a thought. Rice discovered that by tearing out the inside of the boiler, which he found in Morey's combination, and by adding to the combination (but inside of the boiler) the large tube, *C*, to serve as a furnace and the return flues, that he obtained a combined machine which was a very great improvement over Morey's. Rice's combination may have and probably did include Morey's combination, but it included more, *viz.* : the large tube or furnace, *C*, and the return flues, *e, e*.

* * * * *

"In this case Morey's patents were for combining straw-feeders with portable steam-boilers generally. Rice discovered that by substituting one particular kind of portable steam-boiler, which no one else had used, for the steam-boilers which had been used, that he had a better combination than was ever before made ; a combination which did better work than any others and had within it a new and better mode of operation than any others. It burned all of the straw put in it, while the others would not. It did not choke up with partly burned straw and cinders, while the others would. It caused the heat and flame of the fire to pass twice through the length of the boiler, while in the others the heat and flame passed but once through the length of the boiler.

* * * * *

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“It is to be noticed that the Morey patents describe and claim only the combination of the straw-feeding device with the *furnace* of a boiler. His patents stop at the furnace door. They do not go into the boiler beyond the furnace.

“Rice’s patent, on the other hand, *begins at the furnace door where Morey’s stop*, and goes beyond into the boiler, adding new elements.”

The bill of exceptions contains fourteen exceptions to as many rulings of the court during the trial ; but in argument all the points raised by them were reduced and classified by counsel for plaintiff in error under three heads, as follows :

1. That the reissued letters patent to Rice, on which the action was founded, were for an invention different from that described in the original, and was, therefore, void.

2. That the invention described and claimed in the first claim of the plaintiff’s reissued patent, which alone was material to the controversy, was anticipated and covered by the letters patent granted to Morey.

3. That if, after the Morey patents were issued, there was any invention in the combination claimed in the Rice reissued patent, then, in fact, it is to be attributed to Morey himself, and not to Rice.

I. The first question for our determination is that raised as to the identity of the invention intended to be described in the original and reissued patents to Rice, upon the answer to which the validity of the latter, so far as this suit is concerned, depends.

In cases of reissues of patents, inoperative or invalid by reason of a defective or insufficient specification, or by reason of the patentee claiming as his own invention or discovery more than he had a right to claim as new, it is imperative that the new patent, when issued, shall be for the same invention, and that no new matter shall be introduced into the specification, when, as in the present case, there is a drawing, with reference to which the invention is described. Rev. Stat., sec. 4916.

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The principles for determining the validity of reissued patents have been discussed and formulated so repeatedly and so recently in this court, that it is necessary at present only to refer to the cases of *James v. Campbell*, 104 U. S. 356 [p. 341 *ante* ;] and *Miller & Co. v. Bridgeport Brass Co.*, 104 U. S. 350 [p. 303 *ante*,] decided at the present term ; *Burr v. Duryee*, 1 Wall. 531 [7 Am. & Eng. 224,] and *Powder Co. v. Powder Works*, 98 U. S. 139 [12 Am. & Eng. 201.]

In the present case the question of the identity of the invention in the original and reissued patents is to be determined from their face by mere comparison, notwithstanding what was said in *Battin v. Taggert*, 17 How. 74, 85 [6 Am. & Eng. 243,] and consistently with *Bischoff v. Wethered*, 9 Wall. 812 [8 Am. & Eng. 213,] according to the rule laid down in *Seymour v. Osborne*, 11 Wall. 545 [8 Am. & Eng. 290,] and *Powder Co. v. Powder Works*, 98 U. S. 134 [12 Am. & Eng. 201.] That is, if it appears from the face of the instruments that extrinsic evidence is not needed to explain terms of art, or to apply the descriptions to the subject-matter, so that the court is able from mere comparison to say what (*d*) are the inventions (*e*) described in each, and to affirm from such mere comparison that they are not the same, but different, then the question of identity is one of pure construction, and not of evidence and, consequently, is matter of law for the court, without any auxiliary matter of fact to be passed upon by a jury, if the action be at law.

The question arises in the present record, upon an exception of the defendant below to the refusal of the court, after the plaintiff had read in evidence the original patent, to sustain an objection to the introduction in evidence of the reissued letters patent, on the ground that they were void for want of identity in the invention ; and also upon the refusal of the court to instruct the jury, both after the close of the plaintiff's case and after all the evidence was in, to return a verdict for the defendant.

104 U. S. 749.

(*d*) Otto substitutes for from *d* to *e* "is the invention"

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Looking, therefore, to the original patent, nothing can be more clear than that the supposed invention described in it is nothing more nor less than the return-flue boiler itself. The patent is for a new and useful improvement in steam-boilers. The specification begins by declaring that the invention relates to certain improvements in the construction of steam-boilers, whereby, the inventor says: "I am enabled to utilize straw and other light substances for fuel, so that a complete combustion of the smoke is attained, and the danger from fire in harvest fields, where these boilers are more especially useful, is entirely obviated." It also relates, as is said, to a novel method of securing the tubes and tube sheets within the shell of the boiler. Reference is then made to the accompanying drawings for a more complete explanation of the invention. He refers to the shell of the boiler, which he says is more especially intended to be used for that class of engines employed in thrashing and other field work, where there is straw or other light material enough for fuel, but which has never been satisfactorily burned without an artificial draft or blast, and which has always been dangerous by reason of the sparks thrown out on account of incomplete combustion. It was, "In order to remedy these faults and perfectly consume all the smoke and sparks," he continues, that "I perforate my tube sheets, so as to admit one large tube near the bottom, which receives the fuel upon a grate and acts at the same time as a tube and fire box." Then occurs this sentence: "Any suitable feeder may be employed to supply straw to the grate, but I have found the device patented by D. Morey, June 20, 1873, to be very suitable." He then proceeds with the description of the tubes and the return tubes conducting to the chimney in front, and the communicating chamber between the flue sheet and the boiler head, and the similar chamber at the back end of the boiler, into which the products of combustion pass from the large flues before entering the return flues. "By this construction," the specification continues, "the light fuel is thor-

oughly ignited in its passage through the large tube, which has plenty of air admitted for the purpose. The heat and flame will be concentrated in returning through the small flues, and the combustion will be so complete that no sparks and very little smoke will escape from the chimney, and this little will not even need a bonnet." This is followed by a description of the device for removing the tubes and tube-sheets from the shell in a body for repair or cleaning, which is not material. The inventor then adds: "By this construction I am enabled to make a boiler and furnace in which straw can be used as a fuel with perfect safety, and in which repairs can be easily effected," and concludes: "Having thus described my invention, what I claim and desire to secure by letters patent is: In a horizontal steam boiler large tube, C, formed with a grate, D, to serve as a fire in combination with small return flues, *e e*, when the tubes and tube-sheets are secured by flanges, *i*, and bolts, to be removable from the shell in a body, substantially as for the purpose set forth."

The allusion to the mode of supplying straw to the boiler is merely casual and incidental. Any suitable feeder may be employed, it is said; the inventor adds: "But I have found the device patented by D. Morey, June 20, 1864, to be very suitable." In what respect this device he found to be very suitable is not mentioned, nor is it stated that there are not many others quite as good. No attempt is made to explain what is needed in a feeder to feed straw suitably, nor any hint that any of the advantages described as resulting from the operation of the machine depend in any degree upon the character of the feeder. For any advantage that may be inferred from what is said concerning it, the device may be nothing peculiar in the mode of supply, except inasmuch as it is rendered necessary by the character of straw as a fuel, in its lightness and bulk, and a supposed convenience in its support that account of supporting it, as it is pushed into the furnace. There is certainly no suggestion that it

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sidered important, much less necessary, in supplying this fuel, to do it in such manner and by means of such device as will prevent the introduction of a draft of cold air between the top of the fuel and the bottom of the boiler while in the act of replenishing the supply. Neither the mode of feeding the fuel, nor any device for doing it is made any part of the described invention ; nor is either referred to, in any way, as performing any useful or essential function in the operation of the machine described. Every desired advantage which it is expected to accomplish is referred expressly to the boiler itself, and its structure and internal arrangement. As is well said by counsel for plaintiff in error, on this point: "What he sought was complete *combustion* of the straw by making the products of combustion pass through the boiler twice before they were allowed to escape into the chimney ; and the office of the feeder was not auxiliary to the combustion but preliminary to it. It supplied the straw. It did not burn it. It is true that a Morey tube is shown in the drawing as attached to the front of his engine, but that does not make it a part of his invention any more than a set of wheels and axles would have become part of it if the drawing had represented his boiler as mounted on running-gear."

If we turn now to the reissued patent, we find that the patentee declares that, "My invention relates to the combination of a straw-feeding device, with the furnace door of the class of boilers which are known as return-flue boilers, by which combination I am able to provide a superior arrangement for utilizing straw as a fuel for generating steam." He then refers to the failure of previous attempts to utilize straw as fuel for generating steam, and gives as the reason, that, "When straw is fed into the furnace of an ordinary steam-boiler, it burns too quickly to do much good in heating the water in the boiler, until a sufficient quantity of cinders accumulates upon the grate bars to impede the draft ; and unless the cinders are frequently removed from between

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the grate bars they soon accumulate to such an extent as to choke the draft entirely and prevent combustion." He then adds that his experiments have developed the fact that by attaching a tube or box door to the furnaces, of that class of boilers known as return-flue boilers, the combustion will be so complete that no sparks and but very little smoke will escape from the chimney, and the straw will be burned freely, giving out a high degree of heat without danger of choking the grate bars.

He then gives a description, with reference to the drawings, which are the same as those attached to the original specifications. In that description, differing in that respect from the former one, he inserts: "To the door of the furnace, C, I attach a straw-feeding tube, E, through which the straw or other light fuel is fed to the furnaces;" and changes the sentence in reference to the character of the straw feeder, so as to read as follows: "This tube can be constructed in the manner described by David Morey in his patents dated February 11, 1873, and May 25, 1873, for straw-feeding attachment for furnaces, or in some other suitable manner, *for feeding the straw without admitting a draft of air.*" The first claim of the reissued patent reads thus: "The boiler, A, having the furnace, C, grate, D, return flues or tubes, *e e*, and stack or chimney, B, arranged as described, *in combination with the straw-feeding furnace door attachment*, substantially as and for the purpose described."

It appears then from the mere reading of the two specifications, that the invention described in the first is for the return-flue boiler; while that described in the second, abandoning the claim for the boiler itself, is for a particular mode of using it, with straw as a fuel, by means of an attachment to the furnace door for that purpose. It might well be that Rice was entitled to patents for both, separately, or to one for both inventions. But it is too plain for argument that they are perfectly distinct. A patent, consequently, originally issued for one, cannot lawfully be surrendered as the

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basis for a reissue for the other. They are as essentially diverse as a patent for a process and one for a compound, as in the case of Powder Co. *v.* Powder Works, 98 U. S. 134 [12 Am. & Eng. 201,] where the reissued patent was avoided, although the original application claimed the invention both of the process and the compound. The case comes directly within the principle held in James *v.* Campbell [p. 341 *ante*,] that a patent for a machine cannot be reissued for the purpose of claiming the process of operating that class of machines; because if the claim for the process is anything more than for the use of the particular machine patented, it is for a different invention.

II. The second principal objection to the validity of the Rice reissued patent is, that it is anticipated by the Morey patents. We are of opinion that it also is well taken.

Morey's reissued patent of May 4, 1875, covers distinctly and expressly a combination of the furnace of a thrashing engine with a detachable box or tube provided with a flaring mouth, the base of the tube projecting from the furnace at or nearly at a right angle to the front of the furnace, the office of which is to furnish means for the supply of straw as fuel to the furnace in such manner as to prevent the entrance of air after the straw has been pushed through the tube, which may be effected, either by means of a movable partition, for which a separate claim is made, or without it, by merely having the tube or box filled, so as to choke the opening through it, with successive supplies of straw.

It applies to every description of thrashing-engines and boilers, whether fire-box or return-flue. It is true, that it does not specify either class, but it embraces both by its language; and in its application to both it operates in precisely the same manner and with precisely similar effect. If there is any superiority in the return-flue boilers used with this attachment as a straw burner, over the fire-box boiler, when used in the same way, the superiority is due, not to any difference in the straw-feeding attachment nor in

the mode of its operation, nor to any new feature of the combination, but merely to the superiority of the return-flue boiler itself. And it does not militate against the validity of Morey's patent, nor limit the extent and effect of its application, to concede what is claimed; that he was not aware, at the time of his invention, of the superior value of its application to return-flue boilers over fire-box boilers, or that the discovery of that superiority is attributable to Rice. That application of it is within the scope and provision of Morey's invention, whether it had been tested by his experience, or was anticipated by his foresight or not. If, at the date of Morey's invention, return-flue boilers had not been known, but had been subsequently invented, his patent, as applied to them, would still have prevailed against any new claimant; for the new application does not produce any new effect. It is only the occasion which is new; the use itself is merely analogous. The case of Hall's patent, 1 Web. Pat. Cas. 98, where the flame of gas was used instead of an argand lamp for singeing lace, is pressed upon us as authority for a different conclusion upon this point, but the decision of Lord Abinger in *Losh v. Hague*, 1 Web. Pat. Cas. 207 [2 Am. & Eng. 501,] and his comments upon the case of Hall's patent, show that it has no application here.

There was no patentable invention in Rice's adaptation. The return flue boiler, it is admitted, was old. The Morey attachment had been already invented. The idea and principle of its operation, in adapting boilers to the use of straw as a fuel, was the essence of his invention. Rice, it is confessed, discovered nothing more than that, for such purposes, a return-flue boiler was better than fire-box boilers, which were the only kind that had then been used.

"But this," in the language of Mr. Justice Nelson in *Hotchkiss v. Greenwood*, 11 How. 286 [5 Am. & Eng. 240,] "of itself, can never be the subject of a patent. No one will pretend that a machine made, in whole or in part, of materials better adapted to the purpose for which it is used

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than the materials of which the old one is constructed and for that reason better and cheaper, can be distinguished from the old one; or, in the sense of the patent law, can entitle the manufacturer to a patent. The difference is formal and destitute of ingenuity or invention. It may afford evidence of judgment and skill in the selection and adaptation of materials in the manufacture of the instrument for the purposes intended, but nothing more." *Hicks v. Kelsey*, 18 Wall. 670 [9 Am. & Eng. 150,] affirms this case.

The same principle was applied in the case of *Stow v. Chicago*, [p. 426 *ante*,] decided at the present term.

The case would not be altered if we suppose that, at the date of Morey's patent, there had been also a valid patent outstanding in a stranger for the return-flue boiler. On that supposition, could it for a moment be contended that Rice could secure for himself a valid patent for the combination as an improvement on both? What invention could he claim? He uses Morey's device precisely as Morey's patent contemplated, and the Cornish boiler exactly as it was designed it should be used. And in the combination each operates separately, producing its own results. There was no inventive resource drawn upon to bring them together. Could not the owners of the patents for the straw-feeding attachment and the return-flue boiler unite their machines and work them together, in defiance of a claim for the combination? To ask the question is to answer it. Yet the case supposed does not differ from the case as it exists, for the public owned the right to the Cornish boiler and was entitled to every use to which a patentee owning it might lawfully apply it.

On the trial of the cause below, Morey's patent seems to have been treated, in the charge of the court, as if it were a patent for a combination of a straw-feeding attachment with the furnace of boilers, other than those with return flues, and that Rice added to the combination the new element of the return flues with a new and important result.

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But this view, in our opinion, is not justified by the true construction of the patents. If Morey's patent is for a combination, it is a combination of the straw-feeding attachment with all boilers for generating steam, when it is desired to use straw for fuel and, therefore, includes the very combination claimed by Rice. And if it is for the straw-feeding attachment as an independent device, but to be used in boilers for generating steam, when straw is to be used as fuel, then the application of it to the return-flue boilers, although these were not actually known to the inventor, is merely a new and analogous use of an old device, operating in the very manner intended by its inventor, and the use of which, in the new application, involved no invention and could not, therefore, be the subject of a patent.

III. In fact, it is very apparent from the testimony on the part of the plaintiff below, that the actual application of the Morey straw-feeding attachment to the return-flue boiler, at Rice's establishment, was a demonstration made by Morey himself of the practical operation of his device; intended to show, what he had already proved by previous trials with fire-box boilers, to his own satisfaction, that he had invented an arrangement for applying the principle by which straw could be made useful as a fuel for steam-boilers; that principle being to prevent the introduction of a draft of cold air while feeding the supply. He showed this to Rice by the trial at the establishment of the latter, on one of his own return-flue boilers. Rice, by subsequent experience or previous knowledge, it matters not which, perceived the advantages of the return-flue boiler over the fire-box boiler for such a use. That was his sole discovery, and constitutes the basis of the claim for his patent. The marvel is, that he should have succeeded in persuading Morey that he had given all its value to the invention of the former, and obtained from him the conveyance of his patent, for a consideration dependent upon the result of this litigation.

The court below, in its rulings upon objections to the in-

Notes and citations.

troductio[n] of the reissued patent of Rice, in its refusals to charge the jury as requested by the defendant below, and in its charge as given, took views of the validity of the patent, on which the case of the defendant in error rested opposed to those expressed in this opinion, and which necessarily resulted in the verdict and judgment against the plaintiff in error. *For these errors, the judgment is reversed and a new trial ordered, and for that purpose the cause is remanded.*

104 U. S. 737.

Notes:

1. Reissue void for want of identity with original:

See *Miller v. Bridgeport Brass Co.*, 104 U. S. 350, notes 1 to 8 [p. 303 *ante.*]

2. Reissue must be for same invention as the original:

Battin v. Taggart, 17 How. 74 [6 Am. & Eng. 243.]
Seymour v. Osborne, 11 Wall. 516 [8 Am. & Eng. 290.]
Gill v. Wells, 22 Wall. 1 [9 Am. & Eng. 471.]
Corn-Planter Patent, 23 Wall. 181 [10 Am. & Eng. 1.]
Marsh v. Seymour, 97 U.S. 348 [12 Am. & Eng. 53;] and see
Miller v. Bridgeport Brass Co., 104 U. S. 350, notes [p. 303 *ante.*]

4. Reissue of machine to cover process:

James v. Campbell, 104 U. S. 356 [p. 341 *ante.*]
Wing v. Anthony, 106 U. S. 142.
Eachus v. Broomall, 115 U. S. 429.

a. Analogous use:

Collar Co. v. Van Deusen, 23 Wall. 530 [10 Am. & Eng. 156.]
 Penn. R. R. Co. v. Locomotive Truck Co., 110 U. S. 490.
 Morris v. McMillin, 112 U. S. 244.
 Stephenson v. Brooklyn R. R. Co., 114 U. S. 149.
 Blake v. San Francisco, 113 U. S. 379.
 Western Elec. Mnfg. Co. v. Ansonia Co., 114 U. S. 447.
 Eachus v. Broomall, 115 U. S. 429.
 Miller v. Foree, 116 U. S. 22.
 Dreyfus v. Searle, 124 U. S. 60.

Patent in suit:

No. 146,614. Rice, H. W. January 20, 1874. Reissue No. 6,422. May 4, 1875. Steam-Boiler.

OTHER SUITS ON SAME PATENT:

Rice v. Heald, 1877. 13 Pac. L. J. 33.

Cited:

IN SUPREME COURT IN:

Wing v. Anthony, 1882. 106 U. S. 142; Bk. 27 L. ed. 110.
 Moffitt v. Rogers, 1882. 106 U. S. 423; Bk. 27 L. ed. 76.
 Gage v. Herring, 1883. 107 U. S. 640; Bk. 27 L. ed. 601.
 Penn. R. R. Co. v. Locomotive Truck Co., 1884. 110 U. S. 490;
 Bk. 28 L. ed. 222.
 McMurray v. Mallory, 1884. 111 U. S. 97; Bk. 28 L. ed. 365.
 Morris v. McMillin, 1884. 112 U. S. 244; Bk. 28 L. ed. 702.
 Torrent & Arms Lumber Co. v. Rodgers, 1884. 112 U. S. 659;
 Bk. 28 L. ed. 842.

Notes and citations

Eachus v. Broomall, 1885. 115 U. S. 429; Bk. 29 L. ed. 419.
Thatcher Heating Co. v. Burtis, 1887. 121 U. S. 286; Bk. 30 L.
ed. 942.

IN CIRCUIT COURTS IN:

Wooster v. Handy, July, 1884. 22 Blatch. 307; 21 Fed. Rep. 51;
28 O. G. 629.
Leonard v. Lovell, December, 1886. 29 Fed. Rep. 310.
United States Bung Mnfg. Co. v. Independent Bung & Bushing
Co., May, 1887. 31 Fed. Rep. 76; 24 Blatch. 406.

IN DECISIONS OF COMMISSIONER OF PATENTS IN:

Ex parte Pfaudler, October, 1882. 22 O. G. 1881.
Ex parte Taintor, March, 1889. 47 O. G. 135.

IN TEXT BOOKS:

2 Abb. Pat. Laws, 1886, p. 462.
Walker on Pats., 1883, pp. 27, 171.

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Syllabus.

SAMUEL R. C. MATTHEWS ET AL., APPELLANTS, v.
BOSTON MACHINE COMPANY ET AL.

105 (15 Otto) U. S. 54-59. Oct. Term, 1881.

[Bk. 26, L. ed. 1022 ; 21 O. G. 1349.]

Argued March 11, 1882. Decided March 27, 1882.

Particular patents construed. Reissue with broader claims. Unreasonable delay in reissuing. Want of novelty.

1. Where the single claim of the original letters patent, No. 19,206, Race and Matthews, January 26, 1858, Hydrant Casing, was for a combination, and the reissued patent, No. 4,887, April 30, 1872, had separate claims which embraced fewer elements in combination than were embraced in the claim of the original patent, *held*, that the reissue was not merely for broader claims made many years after the original was granted, but for a different invention. That by suppressing the description of certain parts of the device the reissued patent is made to cover by implication an invention described and claimed in a subsequent patent. That the original showed on its face that these broad claims were not made; that the patentees, if they were the inventors of such subject-matter, when apprised that it was not claimed in the patent, should have used due diligence in surrendering the patent and having the mistake corrected. Fourteen years was too long a period of delay. (p. 525.)
2. The claim of letters patent, No. 96,959, Race and Matthews, November 16, 1869, Hydrant Casing, *held*, wanting in novelty. (p. 526.)
3. When, in view of the state of the art, the patentee's claim must be construed to be for the specific arrangement of devices invented by him, the defendants do not infringe unless their devices are in the same specific form. (p. 527.)

[Citation in the opinion of the court:]

Miller v. Brass Co. 104 U. S. 350 [p. 303 *ante.*] p. 525.

Appeal from the Circuit Court of the United States for the District of Massachusetts.

Statement of the case.

The case is stated by the court.

The specifications and drawings referred to in the opinion of the court are as follows :

W. RACE AND S. R. C. MATHEWS, OF SENECA
FALLS, N. Y.

*Race &
Hye*

№ 19,206.

П Р

Фу

Statement of the case.

Within the lower part of the part, *c*, of the case, a screw thread is formed to receive an annular valve seat, *F*, said seat being screwed into the lower end of *c*.

G represents a valve which is formed of two parts, *n*, *o*, the part, *n*, being of cup form and containing a nut, *p*, by which the valve, *G*, is secured to the lower end of the rod, *C*, a screw-thread being on the lower end of the rod. The other part, *o*, of the valve is a cap which is screwed down upon a packing, *q*, which, when said valve is closed, bears against the seat, *F*, as plainly shown in Fig. 1. The valve, *G*, is allowed to turn freely on the rod, *C*.

Around the outer side of the part, *c*, of the case, *A*, a groove, *r*, is made, said groove being in the same plane with the opening, *j*, in the part, *c*, and the spout or nozzle, *l*, on the pipe, *D*.

The lower end of the upper part, *a*, of the case, *A*, is provided with a flanch, *s*, which fits over a flanch, *t*, on the upper end of the jacket, *E*.

In the upper end of the part, *a*, of the case, *A*, there is screwed a cap, *H*. The cap, *H*, is screwed into a recess, *u*, in which packing, *v*, is placed, the above parts forming a stuffing box.

To the upper end of the rod, *c*, a yoke, *I*, is attached, and a cam or eccentric, *J*, is fitted within the yoke. The cam, *J*, is placed upon a shaft, *K*, which has its bearings in a flanch, *a'*, on the upper part, *a*, of the case, *A*. One end of the shaft, *K*, projects beyond the edge of the flanch and has a square formed on it to receive a wrench, *L*, shown in Fig. 5. The sides of the yoke, *I*, are slotted vertically as shown at *b'*, Fig. 4, the shaft, *K*, passing through said slots.

The yoke, *I*, is covered by a cap, *M*, the lower edge of which is provided with a flanch, *a''*, which is fitted on the flanch, *a'*, of the case and secured to it by screw bolts.

The ring, *d*, of the annular valve, *B'*, may be provided with lugs, *e''*, as shown in Fig. 3, said lugs fitting in grooves

Statement of the case.

Neither do we claim the casing of hydrants when the case and base or pipe, D, are in one piece and permanently attached to the pipe from the "main" as that has been previously done; neither do we claim separately the arrangement of the valves, B', G, but we claim—

1st. The annular valve, B', and the disk valve, G, attached to the rod, C, in combination with the escape or leak opening, j, and seat, F, the above parts being arranged to operate as and for the purpose set forth.

2d. The combination of the case, A, induction pipe, D, provided with flanch, k, and the jacket, E, when arranged as herein shown and described to effect the desired end, to wit, the ready removal, when necessary, of the case and working parts of the hydrant for repairs.

WASHBURN RACE.
S. R. C. MATHEWS.

Witnesses:

WHITING RACE,
W. S. DA LEE.

WASHBURN RACE, OF LOCKPORT, N. Y., AND S. R. C. MATHEWS, OF PHILADELPHIA, PENNA.; SAID RACE ASSIGNOR TO SAID MATHEWS.

IMPROVEMENT IN HYDRANTS.

Specification forming part of Letters Patent, No. 19,206, dated January 26, 1858; Reissue No. 4,475, dated July 18, 1871; extended seven years; Reissue No. 4,887, dated April 30, 1872.

To all whom it may concern:

Be it known that Washburn Race, formerly of Seneca Falls, New York, but now of the city of Lockport, in the county of Niagara and State of New York, and S. R. C. Mathews, now of the city of Philadelphia, in the State of



Pennsylvania, formerly of Seneca
vent certain new and useful Impro
or Plugs; and the entire right the
to me, the said S. R. C. Mathews
the following is a full and exact
ence being had to the accompany
of this specification.

Figure 1 is a central vertical
hydrant; Fig. 2, a horizontal sect
plan of the annular yoke and was
the device by which the valve-rod i
of the wrench.

Like letters indicate correspondi

The invention consists, first, in t
case or jacket around the body of tl
the hydrant and case, or the hydran
and removed or withdrawn, as here
in the employment of a dead-air or
around the stock of the hydrant,
ground, by means of the inclosing
of a guide or yoke, for steadying t
ing the valve; fourth, in the man
valve for facilitating the removal ar
ing without removing the valve-ro
tion and arrangement of the main
whereby the latter is opened as the
and vice-versa.

In the drawing, A indicates the
tion, *a*, being of any appropriate
one or more nozzles, B, and the low
preferably of smaller diameter and
face of the ground and attached to
joint, or in any other suitable man
b, is situated a case or jacket, E, w
ent piece in itself, inclosing the st
protecting it from the packing of e
of frost. This jacket extends to th

or a little above, where it may form a loose connection with the part, *a*, of the hydrant, so that the latter, with the stock, *b*, may be detached from the main and removed without disturbing the jacket. The annular chamber of confined air between the jacket and stock forms a superior non-conductor for the protection of the hydrant from freezing—one which is better than any packing material such as is usually employed, which absorbs moisture and thereby loses its non-conducting qualities. In the lower part of the stock, *b*, is situated an annular valve, *B'*. This consists of a ring, *d*, which is preferably grooved circumferentially in its exterior surface to receive a packing, *e*, to be used in connection with the valve, *G*, for a purpose presently to be described. The ring, *d*, is provided with one or more cross-bars, *f*, connecting it with a hub or boss, *e'*, at its center, in which the lower part of a rod, *C*, is fitted, said rod having a shoulder, *g*, formed on it, which serves as a bearing for the upper edge of the hub or boss, against which it is held by a nut, *h'*. Through the ring, *d*, of the valve, *B'*, a set-screw, *i*, passes, at a point directly opposite an opening, *j*, in the stock, for the purpose of setting it tightly against the waste-opening in case of wear. The ring, *d*, of the annular valve, *B'*, may be provided with lugs, *e''*, as shown in Fig. 3, said lugs fitting in grooves in the case in order to prevent the valve from turning casually. This yoke is fitted in a bored portion of the stock, and, as the rod, *C*, is raised and lowered in opening and closing the valve, *G*, it serves as a guide and support for steadying the valve-rod, and preventing vibration by bearing equally against all sides of the interior of the stock or chamber in which it works, and insures the perfect centering of the valve on its seat at all times when closed. Within the lower part of the stock, *b*, a screw-thread is formed to receive an annular valve-seat, *F*. A valve, *G*, is provided, which is formed of the parts, *nn*, *o*, the part, *n*, being of cup form and containing a nut, *p*, by which the valve, *G*, is secured to the rod, *C*, a screw-thread being on the lower end of the rod. The other part, *o*, of the valve is a cap, which

Statement of the case.

ing, *j*, into groove, *r*, and out at spout or nozzle, *l*. When the rod, *C*, is lowered the valve, *G*, opens and the annular valve, *B'*, passes over the opening, *j*, closing the same, while the water from the main passes up through the seat, *F*, through the case, *A*, and out through nozzle, *B*. Thus it will be seen that when the water is admitted into the case the escape-passage, *j*, is closed, and when the water is shut off the said passage, *j*, is opened.

A great advantage of the case or jacket, *E*, results from its being free or independent of the other parts, so that if any of the parts require repairs the hydrant can be removed from place by simply disconnecting from the main pipe, *D*, and without disturbing the case, *E*, or the earth around it. Or, if the main pipe itself, or its parts, at the connection of the hydrant with it, are deranged, the loose case can be removed with the hydrant, which would not be the case were it to form a solid part of the main. These advantages result from the special use of the detached case or jacket.

I am aware that hydrants have been constructed with a case or extension which forms a fixed part of the main or elbow to facilitate the removal of the hydrant without excavating. Such we do not claim. But I am not aware that a loose or detached case has ever before been used to form a confined-air chamber around the stock, and so that both the hydrant and the case, or the hydrant alone, can be removed. Therefore,

What I claim as the invention of the said Washburn Race and myself is—

1. A protecting case or jacket, *E*, surrounding the body of the hydrant and forming a separate and removable part from the elbow, *D*, substantially as and for the purpose set forth.

2. The independent case or jacket, *E*, supported on the arm, *D*, of the main pipe at or near the junction of the hydrant-stock therewith, substantially as shown and described.

3. The annular yoke, *B'*, on the valve-rod, *C*, for steady-

Statement of the case.

We obtained a patent dated January 28, 1858, in which the distinguishing feature is a detached case or jacket surrounding the hydrant-stock, and embedded in the ground.

Our present invention is an improvement upon that; and consists in so forming and connecting the loose case that it extends above the surface of the ground, and conforms to the general outline of the hydrant itself, and may be driven back to place when the frost has expended its force, as hereinafter set forth.

In the drawings, A indicates the hydrant, the part, *a*, resting above ground, and the stock, *b*, being embedded.

The loose case or jacket, B, which surrounds the stock, is made of graceful cylindrical outline, so as to conform to the general symmetry of the hydrant, and it has an end play of several inches, more or less, between shoulders, *g g*, which limit the motion. The earth is filled around this jacket, while the hydrant-stock itself is simply inclosed. The lower end of the case preferably shuts into a flange, *h*, of the main elbow-connection, C, and it may be centered to prevent axial turning by a sleeve, *c*, which rests in a groove, *d*.

In the use of this hydrant, the earth is not filled clear to the top of the loose case, but the latter projects up to such an extent that it may be driven back to place when the frost has expended its force. The position of the parts, of course, will be indicated at the top to the eye.

By this arrangement the heaving action is expended entirely upon the outside case, and can in no wise affect the hydrant. The heaving by frost is a constant source of trouble and expense in other hydrants, by causing the elbows at the bottom connecting with the "main" to break, also throwing the hydrant itself out of position. While we remedy this difficulty by giving the desired end play, we at the same time, by extending the case above the surface, enable it to be driven back to place without difficulty.

Another great advantage of our invention is that the hydrant can be set at various heights above sidewalks, accom-

Argument of counsel.

sion is inevitable that it did *not* find complainants' patent, No. 96,959, void for want of novelty.

The patent, No. 96,959, will be seen to differ substantially only from the reissue, No. 4,887, in only the single feature of the upper joint, Y, of the jacket with the hydrant body; and even this difference does not involve the elimination of any of the essential features which characterize the earlier invention, but merely engrafts thereon an additional feature which enables the structure to perform a new function.

It will be seen that in the structure described in the reissue, No. 4,887, this independent case or jacket may possess all the fundamental characteristics just specified whether the slip-joint which its upper end makes with the body of the hydrant be close enough to exclude the cold air of winter from the chamber around the hydrant-stock or not; and that according as it does or does not perform such additional function, it is characterized by two distinct branches of invention. These are, therefore, made the subject matter of distinct claims in the specification.

Mr. Causten Browne, for appellees:

The construction of the first and second claims amounts to this, that under both claims the hydrant stock must be capable of being removed through the casing by *sliding* past the elbow below, and past the casing or jacket above; only this slip-joint must be for the purpose of the first claim so tight as to keep out the air from above, and thus form a dead-air jacket.

And it is also contended that "the hydrant must be *that kind* of hydrant which is shown as the one to which the invention is applied, viz: the *unhoused* or modern hydrant having its body of cast iron an expansion of the stock," as distinguished from hydrants in which so much of the hydrant as is above ground is covered over by a housing, the continuation of which below ground serves as the casing or jacket.

It is manifest that this line of construction is adopted as

Opinion of the court.

a reissue of a patent granted January 26, 1858,) and the other dated November 16, 1869. The defendants, in answer, denied that Race and Matthews were the first inventors of the thing patented, referring to several prior patents, and naming prior instances of knowledge and use of the alleged invention; and amongst other things setting up a patent issued to one Zebulon E. Coffin, dated July 21, 1868. They also denied that the reissued patent was for the same invention as the original; and denied infringement. The complainants filed a supplemental bill, alleging that since the filing of the original the defendants had procured a reissue of Coffin's patent, which contained substantially the same invention as that described in the plaintiff's patent of 1869; but that Race and Matthews were the first and original inventors of the thing patented; and, therefore, they prayed that the Coffin patent might be declared void.

The Race and Matthews patents, on which this suit was brought, relate to casings or jackets around hydrants, and to the valves for letting on the water when wanted for use, and for draining it out of the hydrant when not in use. It is conceded that the objects of the casing are: to prevent freezing in and around the hydrant by surrounding it with a volume of dead air, to keep it free from contact with the surrounding earth, and to enable the hydrant to be taken out of the ground without removing the surrounding earth. If the earth is in contact with the hydrant, it lifts the hydrant out of place by the action of the frost, and has to be dug away when repairs or other operations have to be performed below the surface. Many casings formerly used were fastened in different ways to the hydrant (*b*), and when lifted by the frost raised the latter also (*c*) causing breakage or leakage or other damage by the displacement; and, also, the hydrant could not be disconnected from the main and removed, without removing the casing also.

105 U. S. 55.

(*b*) Otto substitutes for from *b* to *c* "and they raised it when they were lifted by the frost"

Opinion of the court.

So far as the improvement in the casing is concerned, the principal thing claimed to be effected by the patentees, Race and Matthews, is the placing of the case in position, without attaching it to the hydrant, or to the elbow of the main pipe below, so that the hydrant, whilst being protected from frost and the surrounding earth, may be lifted out separately, and so that the lifting of the case by the frost and surrounding earth will not disturb the hydrant. These objects are effected by two different devices; first, by causing the case to rest loosely on a flange projecting from the elbow of the main, or otherwise, and allowing it to slide up the hydrant which it surrounds, and which is enlarged at that point, for holding the valves; secondly, by allowing the upper end of the case to embrace the hydrant (enlarged at that point also,) and to slide up and down upon it like a sleeve. Of course, the case must fit the hydrant snugly enough to keep out the influx of cold air above, and of dirt below; but not so tight as to prevent the hydrant from being lifted out, or the case from slipping up and down upon it. This is the thing which the complainants contend that Race and Matthews invented.

As first patented in 1858, the invention did not accomplish the object. The bottom of the case, it is true, surrounded the hydrant like a sleeve, and rested on a flange projecting from the elbow (which allowed the hydrant to be separately removed without removing the case;) but the top of the case was enclosed in a flange projecting from the enlarged part of the hydrant above, like the brim of a hat, but turned down over the top of the case, so that the latter, though unconnected otherwise with the hydrant, yet, if it were lifted by the frost, it would press upward against the flange and raise the hydrant also. This difficulty was remedied by the invention of the improvement patented in 1869, by which the top of the case was made to surround and inclose the upper enlargement of the hydrant, and to slide

Opinion of the court.

over (d) like a sleeve as before stated. The reissued patent of 1872 substantially embraces both features of the improved case, namely: its disconnection with the hydrant both above and below; and places much stress on the dead-air chamber as a protection from frost, and on the protection of the hydrant below from the surrounding earth; although no claim is based on these last features.

The defendants contend that this reissued patent is not for the same invention as that which is described and patented in and by the original patent of 1858; that the latter made no mention of the dead-air chamber formed by the casing, as a protection of the hydrant from the frost; and that it contained no indication that the case should fit closely to the hydrant so as to prevent the passage of cold air into the chamber from without. But to these objections it is answered, that the case invented by Race and Matthews in 1858 was a machine or apparatus having or being susceptible of various functions, some of which were well known and needed not to be mentioned or described. Amongst these known functions of the hydrant casing were, the formation of a dead-air chamber to prevent freezing, and the protection of the hydrant from contact with the surrounding earth. The patent of Coffin, on which the defendants rely, states that prior to the date of his invention *frost jackets* or cases, on hydrants were well known; that they surround the hydrant proper, an air space existing between the two. It was not necessary for the patentees, Race and Matthews, to enumerate all the known functions of these frost jackets in their original patent; and, as no claim was based upon them, it could not be hurtful to enumerate them in the reissued patent.

But the complainants in their reissued patent, have split up and divided the elements of their invention, and claimed them separately, and not as a combination. Of course, this enlarges the scope of their patent. The separate claims em-

105 U. S. 56-57.

(d) Otto adds "it"

Opinion of the court.

brace fewer elements in combination than were embraced in the claim of the original patent. No one could infringe the original patent unless he used all the elements of the combination. Any one will infringe the reissue who uses any of those elements which are now separately claimed.

The original patent had but a single claim in reference to the case, being a claim for a combination between the hydrant, the induction pipe provided with a flanch to sustain the jacket, and the jacket itself, when arranged as described in the specification to effect the desired end, to wit: the ready removal of the hydrant. This, in the reissued patent, is divided into two claims, namely: first, the jacket surrounding the hydrant and forming a separate and removable part from the elbow substantially as and for the purpose set forth; secondly, the independent jacket supported on the arm or elbow of the main at or near the junction of the hydrant, substantially as shown and described; that is to say, there is a claim of a jacket separate and removable from the elbow, and of a jacket resting on the elbow. It cannot be denied that each of these separate claims is much broader than the claim in the original patent; and they are put forth in the reissue fourteen years after the original was granted. The latter showed on its face that these broad claims were not made; and if the patentees were really the inventors of an independent jacket standing loosely on the elbow of the main, when apprised that it was not claimed in the patent, they ought to have used due diligence in surrendering it, and having the mistake corrected. The case clearly comes within the ruling lately made in *Miller v. Bridgeport Brass Company*, 104 U. S. 350 [p. 303 *ante*.]

There is still another objection to the claims in question. There is a wide departure from the original invention in this; that the subject of the latter was a jacket, or casing, whose top was inclosed in and covered by a flange projecting from the hydrant, which effectually prevented the removal of the jacket without removing the hydrant also;

Opinion of the court.

and which caused the hydrant to be raised when the jacket was lifted by the frost. In the reissued patent nothing is said of this arrangement of the top of the jacket; and the claims ignore it altogether; so that, as already intimated, the patent as it now stands would cover such a jacket as that described and claimed in the complainants' patent of 1869, which slides like a sleeve over the hydrant at top as well as bottom. The reissue is not only for a broader claim made many years after the original was granted, but is for a different invention. Therefore, so far as the jacket is concerned, we think it cannot be sustained.

But the patent of 1869 still remains. That was for an improvement by which it was proposed to liberate the top of the case from the flange which covered and inclosed it, and make it surround the hydrant and slip over it like a sleeve. The claim is for "The detached case B, so combined and arranged with the hydrant A, as to have an end play, or vertical motion of several inches, to compensate for the heaving by frost, the upper part of same passing outside of main stock of hydrant." Had this patent been confined to a hydrant jacket closed at the bottom, and resting on a flange of the main elbow, perhaps it might have been sustainable. But it is not so confined. It is only said that the lower end *preferably* shuts into a flange of the elbow. The specification, it is true, commences with a statement that the invention was a mere improvement upon that described by the patent of 1858, which was for a case closed at the bottom by standing on a flange, but before getting through, there is an evident departure from that, and an indication that the patentees had begun to entertain views of an expanded construction intended to be placed on the original patent, which afterwards found expression in the reissue of 1872. The claim of the patent of 1869, as it stands, covers any and every loose jacket having an end play to compensate for the heaving of the frost, and having the upper end passing around the hydrant. It covers the old New York wooden case, or

Notes and citations.

housing, which was in public use for many years before Race and Matthews gave their attention to the subject. We are of opinion, therefore, that this patent cannot be sustained.

As to the valve apparatus the object of which is to let the water in the body of the hydrant escape when the main valve is closed, and to prevent any escape of water when the main valve is open, since Race and Matthews were not the original inventors of this process, but only of a particular arrangement of valves to effect it, they can only properly claim the specific arrangement which they invented. And in view of the older valve in the St. Louis hydrants, which that of the defendants most nearly resembles, and of the fact that the valve used by the defendants is not in the specific form of that invented by Race and Matthews, we think that the defendants are correct in their position that they do not infringe the patent of Race and Matthews, as that patent must be construed in order to be sustained.

The decree of the Circuit Court must be affirmed (e).

105 U. S. 59.

(e) Otto adds, "Mr. Justice MATTHEWS and Mr. Justice GRAY did not sit in this case nor take any part in deciding it."

Notes:

1. Reissue of original combination claim without limitations:
McMurray v. Mallory, 111 U. S. 97.

Reissue of original combination claim with claims of a greater or less number of elements:

Bantz v. Frantz, 105 U. S. 160. [p.542 *post.*]

Johnson v. Railroad Co., 105 U. S. 539.

Herring v. Gage, 107 U. S. 640.

Torrent, etc., Co. v. Rodgers Co., 112 U. S. 659.

Newton v. Furst & Bradley Co., 119 U. S. 373.

Notes and citations

Patent in suit :

No. 19,206. Race and Matthews. January 26, 1858. Re-issue, No. 4,887, April 30, 1872. Hydrant Casing, *a*.

No. 96,959. Race and Matthews. November 16, 1869. Re-issue, No. 10,452, February 26, 1884. Hydrant Casing, *b*.

OTHER SUITS ON SAME PATENT :

Matthews *v.* Flower, 1885. 25 Fed. Rep. 830; 33 O. G. 687.

Cited :

IN SUPREME COURT IN :

Gage *v.* Herring, 1883. 107 U. S. 640; Bk. 27 L. ed. 601.

Flower *v.* City of Detroit, May, 1888. 127 U. S. 563; Bk. 32, L. ed. 175.

IN CIRCUIT COURTS IN:

Scott *v.* Evans, April, 1882. 11 Fed. Rep. 724; 14 Reporter, 42.

Holt *v.* Keeler, August, 1882. 21 Blatch. 68; 13 Fed. Rep. 464; 22 O. G. 1291.

Matthews *v.* Iron Clad Mnfg. Co., August, 1884; 22 Blatch. 432; 21 Fed. Rep. 641; 29 O. G. 693.

Norton *v.* Haight, November, 1884. 22 Fed. Rep. 787.

Mathews *v.* Flower, October, 1885. 25 Fed. Rep. 830; 33 O. G. 887.

Notes and citations.

Tubular Rivet Co. v. Copeland, February, 1886. 26 Fed. Rep. 706;
34 O. G. 1277.

Hubel v. Dick, July, 1886. 28 Fed. Rep. 132; 36 O. G. 939.

Archer v. Arnd, June, 1887. 31 Fed. Rep. 475.

IN CANADIAN COURTS IN :

Withrow v. Malcolm, September, 1882. 6 Ontario Rep. 12.

IN TEXT-BOOKS :

Merwin on Pat. Invt. 1883. p. 190.

Walker on Pats. 1883. p. 164.

Syllabus.

WILSON AGER ET AL., APPELLANT, *v.* TALBOT C. MURRAY.*

105 (15 Otto) U. S. 126-132. Oct. Term, 1881.

[Bk. 26, L. ed. 942 ; 21 O. G. 1197.]

Affirming Murray *v.* Ager, 20 O. G. 1311.

Submitted January 16, 1882. Decided March 6, 1882.

Patent right subject to judgment debt. Bill in equity.

- †1. A patent right may be subjected by bill in equity to the payment of the judgment debt of the patentee. (p. 535.)
2. The decree below, appointing a trustee to execute an assignment of the patent right, if the patentee should not himself execute one, *held*, clearly within the chancery powers of the court and affirmed. (p. 539.)

[Citations in the opinion of the court:]

Hesse *v.* Stevenson, 3 Bos. & P. 565 ; Davies Pat. Cas. 263 [1 Am. & Eng. 121.] p. 535.Longman *v.* Tripp, 2 Bos. & P. (N. R.) 67. p. 535.Bloxam *v.* Elsee, 1 Car & P. 558 ; Ry. & M. 187 ; 6 Barn. & C. 169 [1 Am. & Eng. 373.] p. 535.Mawman *v.* Tegg, 2 Russ. 385. p. 535.Edelsten *v.* Vick, 11 Hare, 78. p. 535.Hudson *v.* Osborne, 39 Law Jour. (N. S.) Ch. 79. p. 535.

Webster on Patents, 23. p. 536.

M'Dermutt *v.* Strong, 4 Johns. Ch. 687. p. 537.Spader *v.* Hadden, 5 Johns. Ch. 280. p. 537.Hadden *v.* Spader, 20 Johns. 554, p. 537.Edmeston *v.* Lyde, 1 Paige, 637. p. 537.Wiggin *v.* Heywood, 118 Mass. 514. p. 537.Sparhawk *v.* Cloon, 125 Mass. 263. p. 537.Daniels *v.* Eldredge, 125 Mass. 356. p. 537.Drake *v.* Rice, 130 Mass. 410. p. 537.Stephens *v.* Cady, 14 How. 528. p. 537.Stevens *v.* Gladding, 17 How. 447. p. 537.Massie *v.* Watts, 6 Cranch, 148. p. 538.Ashcroft *v.* Walworth, 1 Holmes, 152. p. 538.

*See Explanation of Notes, page III

† Head notes by Mr. Justice GRAY.

Argument of counsel.

Gordon v. Anthony, 16 Blatch. 234. p. 538.

Gillette v. Bate, 86 N. Y. 87. p. 539.

Bank v. Robinson, 57 Cal. 520. p. 539.

Carver v. Peck, 131 Mass. 291. p. 539.

Cooper v. Gunn, 4 B. Monroe, 594. p. 539.

Appeal from the Supreme Court of the District of Columbia.

The case is stated by the court.

Messrs. Warwick Martin and Thomas T. Crittenden, for appellants :

Any suit relating to a patent which can be brought at law can be brought in equity. That which cannot be brought at law cannot be brought in equity. A court of law cannot issue an execution to seize and sell a patent right for debts of the inventor. If a court of law cannot do this under the law of 1870, a court of equity cannot. No such power is conferred by this act upon equity courts. We also call attention to the fact that the jurisdiction here given to the courts is in the express language of the statute to be used to protect those to whom patents and copyrights have been granted, not to aid creditors in depriving the patentee of his patented rights.

Courts of equity have no power over patent and copyrights, excepting such as are conferred by statute. The statute of 1870 gives courts no power to seize and sell a patent right under a creditor's bill. They, therefore, possess no such power.

It is admitted by Judge Nelson, in *Stephens v. Cady*, 14 How. 529, that if a patent or copyright were seized and sold under a decree in equity the marshal would possess no power to convey the patent or copyright, the law of Congress providing that nothing can be a conveyance of a patent or copyright but the written conveyance of the inventor or writer, or those authorized by him. He admits that the decree in equity would be of no value, unless it ordered the patentee to convey within a specified time. Under what

Argument of counsel.

law or authority given to courts by Congress can this be done?

Messrs. Durant & Hornor, Lemon G. Hine, and S. T. Thomas, for appellee:

We think the law of the case is plain. If the rights of an inventor be sold to satisfy the creditors, he obtains the benefit of the grant just as much as if he had sold it of his own motion. There is no doubt that he himself has the right voluntarily to sell and dispose of his patent rights. On the death of an inventor his patent rights pass as assets to his personal representatives or legatees, like any other species of personal property. In the hands of the legatee the patent may be subjected to sale for the payment of his debts.

As long ago as 1803 it was held in England that, independent of any provision of the English bankrupt law, the right of a patentee of an invention would pass as assets to his assignee in bankruptcy. *Hesse v. Stevenson*, 3 Bos. & Pul. 777.

By our bankrupt laws of 1867 it is declared that patent rights and copyrights, together with other classes of property enumerated, shall be vested in the assignee of the bankrupt, and the assignee is authorized to sell all the estate of the bankrupt upon such terms as he thinks most for the interest of the creditors.

It is provided in the act of 1870 that the deceased patentee's heirs, executors, administrators, and assigns shall succeed to his rights. Now, if it had been the intention of the framers of the Constitution that patent rights should be exempt from liability for the debts of the inventor, Congress, we think, would have provided that the exclusive right to practice the invention should cease on the death of the inventor, as in the case of a pension.

Mr. Justice GRAY delivered the opinion of the court:

This is a bill in equity by a judgment creditor, to subject

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to the payment of his debt the interest of his debtor in patent rights. The case was heard in the Supreme Court of the District of Columbia upon bill and answers, by which it appears to be as follows :

On the 10th of April, 1876, Talbot C. Murray, in an action at law upon a promissory note, recovered judgment against Wilson Ager for the sum of \$2,164.66, with interest and costs. Upon that judgment a writ of *fiery facias* was issued, and returned *nulla bona*. Wilson Ager had no real or personal property in the District, subject to execution at law, but was the owner of sundry letters patent issued to him by the United States for useful inventions, which, if sold, would produce more than enough money to satisfy that judgment. On the 26th of September, 1876, he conveyed all his right and interest in these letters patent to the other defendant, Elisha C. Ager, who owned an equitable interest of one-third therein, and who, on the 8th of October, 1877, reconveyed the patent rights to Wilson by an assignment which was not recorded in the Patent Office. Wilson Ager resides in the District of Columbia, and the other defendant resides in the State of California, and both have appeared in the cause and answered to the merits of the bill.

The bill prays for an injunction against further assignment pending the suit, and that the patents be sold under the direction of the court and the proceeds of the sale applied to the payment of the judgment debt; and the defendant, Wilson Ager, be required to execute such assignment as may be necessary to vest title in the purchaser or purchasers, in conformity with the patent laws, and for further relief. The decree is, that in default of his paying by a certain day the judgment mentioned in the bill, with interest and costs, and the costs of this suit, the patent rights be sold and an assignment thereof executed by him as prayed for; and that, in default of his executing such assignment, some suitable person be appointed trustee to execute the same.

From that decree the original defendants have appealed

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to this court; and the single question argued before us is, whether a patent right may be ordered by a court of equity to be sold and the proceeds applied to the payment of a judgment debt of the patentee.

A patent or a copyright, which vests the sole and exclusive right of making, using, and vending the invention, or of publishing and selling the book, in the person to whom it has been granted by the government, as against all persons not deriving title through him, is property, capable of being assigned by him at his pleasure, although his assignment, unless recorded in the proper office, is void against subsequent purchases or mortgagees for a valuable consideration without notice. Rev. Stat. secs. 4884, 4898, 4952, 4955. And the provisions of the patent and copyright Acts, securing a sole and exclusive right to the patentee, do not exonerate the right and property thereby acquired by him, of which he receives the profits, and has the absolute title and power of disposal, from liability to be subjected by suitable judicial proceedings to the payment of his debts.

In England it has long been held that a patent right would pass by an assignment in bankruptcy, even without express words to that effect in the Bankrupt Act. *Hesse v. Stevenson*, 3 Bos. & Pul. 565 [1 Am. & Eng. 121;] S. C., Davies, Pat. Cas. 263; *Longman v. Tripp*, 2 New Rep. 67; *Bloxam v. Elsee*, 1 Car. & P. 558 [1 Am. & Eng. 373;] S. C. Ry. & M., 187; 6 Barn. & C. 169; 9 Dow. & R. 215; *Mawman v. Tegg*, 2 Russ. 385; *Edelsten v. Vick*, 11 Hare, 78; *Hudson v. Osborne*, 39 Law Journal (N. S.) Ch. 79. In *Hesse v. Stevenson*, Mr. Justice Chambre, in the course of the argument, said: "The right to the patent is made assignable; why then may it not be assigned under a commission of bankrupt?" 3 Bos. & Pul. 571. And Lord Alvanley, delivering the unanimous judgment of the court, after observing that it was contended "That the nature of the property in this patent was such that it did not pass under the assignment," and "that although by the assignment every

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right and interest, and every right of action, as well as right of possession and possibility of interest, is taken out of the bankrupt and vested in the assignee, yet that the fruits of a man's own invention do not pass," said: "It is true that the schemes which a man may have in his own head before he obtains his certificate, or the fruits which he may make of such schemes, do not pass, nor could the assignee require him to assign them over, provided he does not carry his schemes into effect until after he has obtained his certificate. But if he avail himself of his knowledge and skill, and thereby acquire a beneficial interest, which may be the subject of assignment, I cannot frame to myself an argument why that interest should not pass in the same manner as any other property acquired by his personal industry." 3 Bos. & Pul. 577, 578. The recent bankrupt Act of the United States, in defining what property should vest in the assignee in bankruptcy, expressly enumerated "all rights in equity, choses in action, patent rights, and copyrights," and required the assignee to sell all the property of the bankrupt for the benefit of his creditors. Rev. Stat. secs. 5046, 5062-5064. The only difference is, that in England all such rights pass that become vested in the bankrupt before he obtains a certificate of discharge; whereas, here only those rights pass which belong to him at the time of the assignment.

It has been said by an English text-writer that "A patent right may be seized and sold in execution by the sheriff under a *fiери facias*, being in the nature of a personal chattel." Webster on Patents, 23. We are not aware of any instance in which such a course has been judicially approved. But it is within the general jurisdiction of a court of chancery to assist a judgment creditor to reach and apply to the payment of his debt any property of the judgment debtor, which by reason of its nature only, and not by reason of any positive rule exempting it from liability for debt, cannot be taken on execution at law; as in the case of trust property in which the judgment debtor has the entire beneficial inter-

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est, of shares in a corporation, or of choses in action. *M' Dermutt v. Strong*, 4 Johns. Ch. 687; *Spader v. Hadden*, 5 Johns. Ch. 280, and *Hadden v. Spader*, 20 Johns. 554; *Edmeston v. Lyde*, 1 Paige, 637; *Wiggin v. Heywood*, 118 Mass. 514; *Sparhawk v. Cloon*, 125 Mass. 263; *Daniels v. Eldredge*, 125 Mass. 356; *Drake v. Rice*, 130 Mass. 410.

In *Stephens v. Cady*, 14 How., 528, and again in *Stevens v. Gladding*, 17 How. 447, the point decided was that by a sale of the copper-plate engraving of a map, on execution from a state court against the owner of the copyright, the purchaser acquired no right to strike off and sell copies of the map.

Mr. Justice Nelson, in delivering judgment in *Stephens v. Cady*, said: "The copper-plate engraving, like any other tangible personal property, is the subject of seizure and sale on execution, and the title passes to the purchaser, the same as if made at a private sale. But the incorporeal right, secured by the statute to the author, to multiply copies of the map by the use of the plate, being intangible, and resting altogether in grant, is not the subject of seizure or sale by means of this process—certainly not at common law. No doubt the property may be reached by a creditor's bill, and be applied to the payment of the debts of the author, the same as stock of the debtor is reached and applied, the court compelling a transfer and sale of the stock for the benefit of creditors." He then cited the cases in Johnson's and Paige's Reports, above referred to, and added: "But in case of such remedy, we suppose, it would be necessary for the Court to compel a transfer to the purchaser, in conformity with the requirements of the Copyright Act, in order to vest him with a complete title to the property." 14 How. 531.

In *Stevens v. Gladding*, Mr. Justice Curtis said: "There would certainly be great difficulty in assenting to the proposition that patent and copyrights, held under the laws of the United States, are subject to seizure and sale on execution. Not to repeat what is said on this subject in 14 How.

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531, it may be added, that these incorporeal rights do not exist in any particular State or District ; they are co-extensive with the United States. There is nothing in any Act of Congress, or in the nature of the rights themselves, to give them locality anywhere, so as to subject them to the process of courts having jurisdiction limited by the lines of States and Districts. That an execution out of the Court of Common Pleas for the County of Bristol, in the State of Massachusetts, can be levied on an incorporeal right subsisting in Rhode Island or New York, will hardly be pretended. That, by the levy of such an execution, the entire right could be divided, and so much of it as might be exercised within the County of Bristol sold, would be a position subject to much difficulty. These are important questions, on which we do not find it necessary to express an opinion, because in this case neither the copyright, as such, nor any part of it was attempted to be sold." 17 How. 451. The difficulties of which the learned Justice here speaks are of seizing and selling a patent or copyright upon an execution at law, which is ordinarily levied only upon property, or the rents and profits of property, that has itself a visible and tangible existence within the jurisdiction of the court and the precinct of the officer ; and do not attend decrees of a court of equity, which are *in personam*, and may be enforced in all cases where the person is within its jurisdiction. *Massie v. Watts*, 6 Cranch. 148. And the terms in which he refers to the statement of Mr. Justice Nelson show that there was no intention to criticise or qualify that statement.

There are, indeed, decisions in the circuit courts that an assignee in insolvency, or a receiver, of all the property of a debtor, appointed under the laws of a State, does not, by virtue of the general assignment or appointment merely, without any conveyance made by the debtor or specifically ordered by the court, acquire a title in patent rights. *Ashcroft v. Walworth*, 1 Holmes, 152; *Gordon v. Anthony*, 16 Blatchf. 234. But in *Ashcroft v. Walworth*, Judge Shep-

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ley clearly intimated that the courts of the State might have compelled the debtor to execute such a conveyance. And the highest courts of New York and California have affirmed the power, upon a creditor's bill, to order the assignment and sale of a patent right for the payment of the patentee's judgment debts. *Gillette v. Bate*, 86 N. Y. 87; *Pacific Bank v. Robinson*, 57 California, 520.

In *Carver v. Peck*, 131 Mass. 291, the court reserved the expression of any opinion upon that question, because unnecessary to the decision. And the assumption in *Cooper v. Gunn*, 4 B. Monroe, 594, that an author could not be deprived, against his will and in favor of any of his creditors, of any of the rights secured to him by the Copyright Acts, was merely *obiter dictum*, unsupported by reasoning or authority.

In the case at bar, the bill is filed by a judgment creditor of the patentee, in a court of the United States of appropriate jurisdiction, against the patentee, residing within the District and holding the entire legal title and two-thirds of the equitable interest in the patent rights, and against the owner of an equitable interest in the remaining third, who is properly made a party to the bill. Both defendants are before the court and have filed answers. The debtor's interest in the patent-rights is property, assignable by him and which cannot be taken on execution at law. The case is thus brought directly within the opinion delivered by Mr. Justice Nelson in *Stephens v. Cady*, of the soundness of which we entertain no doubt.

The clause of the decree below, appointing a trustee to execute an assignment if the patentee should not himself execute one as directed by the decree, has not been objected to in argument, and was clearly within the chancery powers of the court, as defined in the Statute of Maryland of 1785, which is in force in the District of Columbia. Maryland Stat. 1785, c. 72 secs. 7, 13, 25, 2 Kilty's Laws; Laws of District of Columbia, (ed. 1868,) pp. 326, 328, 333, 336.

Decree affirmed.

Notes and citations.

Cited :**IN SUPREME COURT IN :**

Hart v. Sansom, 1884. 110 U. S. 151; Bk. 28 L. ed. 101.

IN CIRCUIT COURTS IN :

Wilder v. Kent, February, 1883. 15 Fed. Rep. 217. 23 O. G. 831;
15 Reporter, 525.

Shaw Relief Valve Co. v. City of New Bedford, March, 1884. 19
Fed. Rep. 753; 28 O. G. 283.

Gorrell v. Dickson, February, 1886. 26 Fed. Rep. 454.

Henry Bill Pub. Co. v. Smythe, July, 1886. 27 Fed. Rep. 914.

United States v. Am. Bell Telephone Co., November, 1886. 29
Fed. Rep. 17.

IN STATE COURTS IN:

Keach, Receiver, v. Chadwick, December, 1884. 1 Eastern Rep.
17; 19 Reporter, 731.

Notes and citations.

IN TEXT-BOOKS :

2 Abb. Pat. Laws, 1886, p. 96.

Walker on Pats., 1883, pp. 107, 209, 210.

Syllabus.

GIDEON BANTZ, APPELLANT, v. DAVID FRANTZ
ET AL.*

105 (15 Otto) U. S. 160-166. Oct. Term, 1881.

[Bk. 26, L. ed. 1013 ; 21 O. G. 2037.]

Argued March 2, 1882. Decided March 20, 1882.

Particular patent construed. Reissue broader than original. Mistake apparent on face of patent. Unreasonable delay in reissuing.

1. Where the original letters patent, No. 20,616, G. Bantz, June 22, 1856, Furnace for burning Wet Fuel, contained a single claim to a combination and the reissue, No. 4,731, February 6, 1872, contained distinct claims for every device which entered into the combination ; *held*, that the reissue, was broader than the original patent and void ; *held*, further, that the failure in the original to make the claims contained in the reissue was a fact instantly discernible, even by an unpracticed eye, as soon as the patent was read. The correction, if any was to be made under such circumstances, should have been applied for immediately, and that the right to the correction was lost by unreasonable delay of thirteen and a half years. (p. 552.)

[Citations in the opinion of the court :]

Miller v. Bridgeport Brass Co., 104 U. S. 350 [p. 303 *ante*.] p. 552.

Appeal from the Circuit Court of the United States for the District of Kentucky.

Statement of the case by Mr. Justice Woods:

On June 22, 1858, there was issued to Gideon Bantz, the appellant, who was complainant in the court below, an original patent of that date "For an improvement in furnaces for heating steam-boilers." On February 6, 1872, Bantz obtained a reissue, and on June 22, 1872, an extension for seven years of his reissued patent.

The bill in this case was filed by him on May 4, 1876, to

*See Explanation of Notes, page 111.

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restrain infringement by the defendant, David Frantz, of the extended reissue.

The answer denied the novelty and utility of the invention, denied infringement, and asserted the invalidity of the reissue.

The Circuit Court dismissed the bill, and the case is brought here by the appeal of the complainant.

The specification of the original patent declared :

“The object of this invention is the more perfect combustion of tan, sawdust, bagasse, and all other kinds of refuse fuel in a wet or dry state ; as well as of wood or coal. It is, however, with particular advantage to the burning of wet fuels. My invention consists in the arrangement embracing, for united use in the manner and for the purposes hereinafter specified, the following features, to wit :

“First, two or more arched fire-chambers, with throats of less area than their capacity ; second, an auxiliary combustion reservoir, or chamber, with *cima-reversa* shaped bottom and side draft-door ; third, a series of reverberatory-chambers, with side draft doors and passages at top for communication with each other ; and fourth, a diving or direct flue leading into the chimney or smoke-stack.”

“To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

“A A are two arched fire-chambers, arranged side by side furnished with grates, *a a*, having ash pit, B B, provided below the said grates. These fire-chambers are not placed below the boiler, H, but directly in front thereof, and longitudinally parallel therewith. They may, however, be placed at one side of the boiler or at any angle to it. Each is provided with the usual door, *b*, but these are only used for lighting the fires ; and the ash pits are provided with doors, *c*, to regulate the supply of air through the grates, and permit the cleaning out of ashes. On the top of each chamber there are feeders, *d d*, for supplying the fuel, but as these feeders are the same as used in other furnaces, no particu-

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lar description of them is necessary. The fire-chambers are covered with a flat floor built over the arches, that the fuel may be wheeled to the feeders in barrows, or brought in any other convenient manner. At the rear end of each fire-chamber there is a throat-like aperture, *e*, communicating with what I term the reservoir, *C*, which is built of brick, lined with fire-brick, under the front portion of the boiler, and which has a concave bottom, *m*, and convex back, *n*, which are formed by a *cima-reversa* shaped plate. By having the bottom and back of the reservoir formed by a *cima-reversa* shaped plate, the throat, *e*, is not partially closed up, as it would be if the plate was straight and set inclined and, beside this, the heated products of combustion are made to hug the bottom of the boiler, and as the draft is at this point, the perfect combustion of partially ignited gases is insured. The convex back of the reservoir terminates in, and serves as a bridge-wall, and has a concave top so formed as to leave a space, *o*, of but three or four inches between it and the boiler.

“The purpose of the reservoir will be presently explained. In rear of the bridge-wall, *f*, there is a series of reverberatory-chambers, *D D D*, two, three, or more, one behind the other, the series extending nearly as far as the rear end of the boiler, and the said chambers being severally separated by bridge-walls, *g g*, and each chamber being provided with one or more doors, *h*, in either or both sides, for the purpose of admitting air in sufficient quantities either to complete the combustion of the gases from the fire-chambers or to check the draft. The reservoir is furnished with a door, *h'*, for a similar purpose as those, *h h*, in the reverberatory-chamber. At the rear of the hindmost reverberatory-chamber there is a wall, *g'*, like *g g*, behind which there is a diving or drop flue, *E*, leading to the chimney.

“The operation of the furnace is as follows: the gaseous products of the combustion in the fire-chamber, *A A*, escape by the throats, *e e*, into the reservoir, *C*, where they mingle together, and the combustible portion thereof becomes ig-

G. B.
Steam-Boi
N^o 20,616.

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more single fire chambers not arranged under the boiler, the combustion-chamber or reservoir, C, arranged above the top of said fire chambers, and located directly under the front end of the boiler, essentially as described.

“2. The *cima-reversa* bottom, *m n*, of the combustion-chamber or reservoir, C, in combination with the narrow throats, *e*, of the separate fire-chambers, and the narrow exit flue, *o*, of the bridge-walls, *f*, for the purpose essentially as described.

“3. In combination with the combustion-chamber or reservoir, C, arranged and located as described, I claim the side door or doors, *h'*, for the admission of atmospheric air, for the purpose described.

“4. In combination with a series of fire-chambers, A, and the combustion chamber or reservoir, C, located and arranged directly beneath the front end of the boiler, and above the crown of said fire-chamber, I claim a series of reverberatory-chambers, D, provided with side doors, *h*, and a diving flue, E, at the rear end of the boiler to hold the heat beneath the same throughout its entire length, and to arrest and deaden the sparks as described.

“5. In a furnace for burning wet fuels in which the fire-chambers are not arranged under the boiler, I claim the arrangement of the boiler upon the rear wall of the furnace and the rear wall of the diving-flue, E, for the purpose of obtaining the full advantage of the heat of the walls of the furnace, and of the diving-flue, as described.

“6. In a furnace for burning wet fuels, having a flat top, and supplied through openings therein, I claim the dead-chambers, arranged between the floor and the arches of the fire-chambers, for the purpose of maintaining the top of the furnace cool for the workingmen, as described.”

Messrs. Stem & Peck and John E. Hatch, for appellants :

The original specification showed and described clearly every feature shown and claimed in the reissue. All the

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features may be used in a single furnace, or one or more of them may be used separately; all are not essential to the successful use of either.

The principle that the provision for reissue is a remedial one is too well settled to need discussion; it is designed for the benefit of inventors, to secure to them the protection which the law affords for the inventions which they have made, in cases where, through imperfection, either in the description or in the specification of claim, the original patent fails to secure to them the full measure of protection to which they are entitled.

“In whatever manner the mistake or inadvertence may have occurred, is immaterial. The action of the Government, renewing the patent, must be considered as closing this point, and as leaving open for inquiry before the court and jury the question of fraud only.”

Stimpson v. Westchester R. Co., 4 How. 380 [4 Am. & Eng. 398;] *Railroad v. Stimpson*, 14 Pet. 458 [4 Am. & Eng. 324;] *Seymour v. Osborne*, 11 Wall. 543 [8 Am. & Eng. 290;] *O'Reilly v. Morse*, 15 How. 62 [5 Am. & Eng. 483.]

That a reissue cannot be held to be invalid merely because it claims devices, or combinations of devices shown and substantially described, but not claimed in the original patent, is clearly taught by an examination of a large majority of cases in this court, and in various circuit courts, in cases where reissues have been sustained, and notably in the *Corn-Planter* case, 23 Wall. 181 [10 Am. & Eng. 1.]

The claim as it stands in the original patent, could not be the subject of a valid combination, for the reason that it is not a combination, but simply an aggregation of parts, which is not patentable in itself under the law.

Hailes v. Van Wormer, 7 Blatch. 443.

The inventor applied for his patent himself, without the advice of a solicitor or attorney, and without any knowledge of the practice, and he says: “Through want of knowledge of the law, I put everything in one claim, whereas the sep-

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arate parts that act separately should have been claimed separately."

Upon a careful examination of the law of reissue, as laid down by this court, we conclude that an excellent, if not the best test, of the admissibility of new claims in a reissue is *whether or not the claims would have been good if found in the original patent.*

Messrs. Lewis N. Dembitz and William A. Maury, for appellees :

Where the reissued patent is larger in its scope than either the specification or the claim in the old one, it is not a patent for the same invention, and is, therefore, unauthorized and void.

Case v. Brown, 2 Wall. 320 [7 Am. & Eng. 360 ;] Russell v. Dodge, 93 U. S. 460 [10 Am. & Eng. 495 ;] Gill v. Wells, 22 Wall. 1 [9 Am. & Eng. 471.]

Nothing can be plainer than the inventor's meaning. He considers all the parts of his furnace as forming one connected whole, he does not expect any good from one part without the other. He almost disclaims the possibility of getting any benefit out of less than the whole combination.

In the reissue these parts are disposed into five groups, and a claim is made for each of these ; so that the infringement of the supposed exclusive right to each of these groups may be made a matter of complaint. In the language of Russell v. Dodge, 93 U. S. 460 [10 Am. & Eng. 495,] this "operated to enlarge the character and scope of the invention."

But a sixth claim is added for so-called "dead chambers," which are not mentioned in the specifications or claim of the old issue at all, and which are found as "chambers," but by no means as dead chambers, in the drawings appended to the original patent.

Mr. Justice Woods (a) delivered the opinion of the court :
We are clearly of opinion that the reissued patent is void.

105 U. S. 163.

(a) Otto inserts, "after stating the case "

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It is evident on a cursory reading of the specification and claim of the original patent, that it was meant to cover a combination of the several contrivances therein described, and not to cover the several parts of the former (*b*) as distinct inventions. No claim is made for the several parts of which the former is constructed, but for the "arrangement embracing, for united use in the manner and for the purposes specified, the following features," etc.

If the claim of the original patent had been for the several distinct contrivances of which the furnace is composed, as claimed in the reissued patent, it would not have been granted, because the evidence in the record shows that at least the sixth claim in the reissued patent, for dead-chambers over the arches of the fire-chambers, was distinctly covered by the patent of Moses Thompson, dated April 10, 1855, for an improvement in burning tan bark, *bagasse*, sawdust, or other kinds of fuel in a wet state, for the purpose of creating heat to generate steam, etc. This, the drawings accompanying the specifications of Thompson's patent clearly show.

It is evident, therefore, that if the appellant had, in his application for the original patent, claimed as his own invention all the distinct devices described in the specification, he could not have obtained his patent in its present form. It could have been only on the ground that his claim was for a combination that it was allowed and the patent issued (*c*).

If the reissued patent is valid the appellant could maintain an action against any person who infringed (*d*) any one of the separate claims covered by it. Under the original patent, suit could be maintained only against those who employed the combination embracing all the distinct con-

105 U. S. 163-165.

(*b*) Otto substitutes for "parts of the former," "elements of the combination"

(*c*) Otto adds, "Prouty v. Draper, 1 Story, 568; Pitts v. Whitman, 2 Id. 609; Prouty v. Ruggles, 16 Pet. 336 [4 Am. & Eng. 351.]"

(*d*) Otto substitutes for "any person who infringed," "the infringer of"

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trivances described in the reissued patent. The reissue is, therefore, broader than the original patent and is, under the circumstances of this case, void.

The act of July 8, 1870, 16 Stat. at L. 198, was in force when the reissue was granted. That act, section 53, Rev. Stat. sec. 4916, declared that "Whenever any patent is inoperative or invalid by reason of a defective or insufficient specification, or by reason of the patentee claiming as his own invention or discovery more than he had a right to claim as new, if the error has arisen by inadvertence, accident, or mistake, and without any fraudulent or deceptive intention, the commissioner shall, on the surrender of such patent and the payment of the duty required by law, cause a new patent for the same invention, and in accordance with the corrected specification, to be issued to the patentee."

In this case the original patent bore date June 22, 1858. The reissue bore date February 6, 1872, more than thirteen years and six months after the date of the original patent and less than five months before its expiration. If the specification in the original patent was defective or insufficient in claiming a combination of several devices instead of making a distinct claim for every device which entered into the combination, the fact was instantly discernible, even to an unpracticed eye, as soon as the patent was read. Therefore, as said by Mr. Justice Bradley in delivering the opinion of this court in a similar case, *Miller v. The Bridgeport Brass Company* [p. 303 *ante*,] decided at the present term, if any correction was desired it should have been applied for immediately; the right to have the correction made was abandoned and lost by unreasonable delay. The case referred to, is apposite and is conclusive of this.

Judgment affirmed (e).

105 U. S. 165-166.

(e) Otto adds, "Mr. Justice HARLAN did not sit in this case nor take any part in deciding it."

Notes and citations.

IN CIRCUIT COURTS IN:

Holt v. Keeler, August, 1882. 21 Blatch. 68 ; 13 Fed. Rep. 464 ;
22 O. G. 1291.

Pope Mnfg. Co. v. Marqua, March, 1883. 15 Fed. Rep. 400.

Turrell v. Bradford, March, 1883, 21 Blatch. 284 ; 15 Fed. Rep.
808 ; 23 O. G. 1623.

Wooster v. Handy, July, 1884. 22 Blatch. 307 ; 21 Fed. Rep. 51 ;
28 O. G. 629.

Matthews v. Iron Clad Mnfg. Co., August, 1884. 22 Blatch. 427 ;
21 Fed. Rep. 641 ; 29 O. G. 693.

Tubular Rivet Co. v. Copeland, February, 1886. 26 Fed. Rep. 706 ;
34 O. G. 1277.

IN DECISIONS OF COMMISSIONER OF PATENTS IN:

Ex parte Flynn, April, 1883. 23 O. G. 2029.

IN CANADIAN COURTS IN:

Withrow v. Malcolm, September, 1882. 6 Ontario Rep. 12.

IN TEXT-BOOKS:

Walker on Pats, 1883, p. 164.

Oct., 1881.]

BANTZ v. FRANK

Syllabus.

CHARLES T. ROOT, Executor of THOMAS SAYLES, Deceased, APPELLANT, v. LAKE SHORE AND MICHIGAN SOUTHERN RAILWAY COMPANY.

105 (15 Otto) U. S. 189-217. Oct. Term, 1881.

[Bk. 26, L. ed. 975 ; 21 O. G. 1112.]

Argued December 16, 1881. Decided March 13, 1882.

Equity jurisdiction in patent cases. Rule for computing profits. Damages, actual and nominal. Infringer as trustee. Expired patent.

1. Review of the statutes and decisions relating to equity jurisdiction in patent cases ; Act February 15, 1819 ; Act 1836, sec. 17 ; Act 1870, secs. 55 and 59 ; R. S., secs. 4919 and 4921. (p. 568.)
2. Rule for computing the profits of an infringer upon a decree for such an account. (Act 1836.) Actual gains and profits ; actual damages and nominal damages. (p. 569.)
3. The whole force of the change in the law contained in the fifty-fifth section of the Act of 1870 (R. S., sec. 4921,) whereby the complainant is entitled to recover, in addition to the profits to be accounted for by the defendant, the damages the complainant has sustained thereby, consists in conferring upon courts of equity in the exercise of their jurisdiction in administering relief which they are accustomed and authorized to give, the power, not merely to give that compensation for the past which consists in the profits of the infringer, but to supplement it when necessary with the full amount of damages suffered by the complainant. In other words, the power to award damages and to multiply them is added as an incident to the right to an account. (p. 576.)
4. The plain and obvious purpose of the provision of the sixty-first section of the Act of 1870, that "the like defences may be pleaded in any suit in equity for relief against any alleged infringement, and proofs of the same may be given upon like notice in the answer of the defendant and with the like effect,"

*See Explanation of Notes, page III.

Syllabus.

is to furnish appropriate modes in
of all issues, both of fact and law, 1
infringement and the validity of th
sity of framing special issues out of
or sending the parties to a court of
of an action in that forum, in orde
right. (p. 582.)

5. The language of the act of July 8,
61,) similar in that respect to the pr
and 1836, conferring jurisdiction in
well as in law, was not meant to ob
tween these two jurisdictions, or ev
ries between them. Indeed, it is th
this court that this distinction of ju
equity is constitutional to the ext
amendment forbids any infringement
fixed by the common law, and the c
cases as well as others. (p. 583.)
6. It is the fundamental characteristic an
in equity that it cannot give relief
adequate and complete remedy at l
original independent and inherent po
breaches of contract or torts by awa
that was the very office of proceeding
7. Bill in equity seeking only an account
fore, generally speaking, be maintai
retain the bill under an impression t
is better adapted for the adjustment
profits, and improvements. The rule
a suit for the recovery of the pos
brought in a court of equity, and a de
will direct an account as an incident i
a party has a right to a possession w
law, his right to the rents and profits
must be enforced in the same jurisdic
8. A bill for the infringement of a patent
application of this principle by the fa
adopted the rule in ascertaining the
that the infringer is to be treated as th

Syllabus.

for the patentee in respect to profits. The case is not within the principle according to which, in certain circumstances, a court of equity decrees a wrong-doer to be a trustee *de son tort*, and exerts its jurisdiction over him in that character. The principle only applies where the defendant has wrongfully intermeddled with property already impressed with a trust, and he will then be required as a trustee to account, for the reason that trust property may be followed wherever it can be traced, into whosoever possession it comes, except that of a *bona fide* purchaser, without notice. (p. 592.)

9. A bill in equity brought under law of 1870, after the expiration of the patent, and not asking therefore for an injunction or other equitable relief, but for a naked account of profits, and it not appearing from the allegations of the bill that there were any circumstances that would render an action at law for the recovery of damages an adequate remedy for the wrongs complained of, was dismissed. (p. 595.)

[Citations in the opinion of the court:]

- Livingston v. Van Ingen, 1 Paine, 45. p. 566.
 Sullivan v. Redfield, 1 Paine, 441. p. 567.
 Stevens v. Gladding, 17 How. 447. p. 568.
 Colburn v. Simms, 2 Hare, 554; 3 Dan. Ch. Pr. 1797. p. 569.
 Watts v. Waddle, 6 Pet. 389. p. 569.
 Dean v. Mason, 20 How. 198 [6 Am. & Eng. 361.] p. 570.
 Seymour v. McCormick, 16 How. 480 [6 Am. & Eng. 200.] p. 571.
 New York v. Ransom, 23 How. 487 [7 Am. & Eng. 88.] p. 572.
 Jones v. Morehead, 1 Wall. 155 [7 Am. & Eng. 165.] p. 572.
 Rubber Co. v. Goodyear, 9 Wall. 788 [8 Am. & Eng. 150.] pp. 573, 579.
 Mowry v. Whitney, 14 Wall. 620 [9 Am. & Eng. 1.] pp. 573, 576, 579.
 Packet Co. v. Sickles, 19 Wall. 611 [9 Am. & Eng. 280.] p. 574.
 Suffolk Co. v. Hayden, 3 Wall. 315 [7 Am. & Eng. 405.] p. 574.
 Burdell v. Denig, 92 U. S. 716 [10 Am. & Eng. 420.] pp. 575, 592.
 Littlefield v. Perry, 21 Wall. 205 [9 Am. & Eng. 446.] p. 575.
 Birdsall v. Coolidge, 93 U. S. 64 [10 Am. & Eng. 445.] pp. 577, 592.
 Elizabeth v. Pavement Co., 97 U. S. 126 [11 Am. & Eng. 514.] p. 578.
 Marsh v. Seymour, 97 U. S. 348 [12 Am. & Eng. 53.] pp. 578, 580.
 Cawood Patent, 94 U. S. 695 [11 Am. & Eng. 235.] p. 579.
 Livingston v. Woodworth, 15 How. 559 [6 Am. & Eng. 167.] pp. 569, 579.
 Parks v. Booth, 102 U. S. 96 [12 Am. & Eng. 470.] p. 580.
 Silsby v. Foote, 20 How. 386 [6 Am. & Eng. 388.] p. 581.
 Hendrie v. Sayles, 98 U. S. 546 [12 Am. & Eng. 235.] p. 581.

Argument of counsel.

that language is followed by citations of four earlier cases. It follows, from this point of law, that if the Supreme Court has repeatedly granted relief in equity on bills brought for infringing patents, independently of an injunction, the public is justified in concluding that equity has jurisdiction of such bills ; “ though the question was not raised by the defendants in their pleadings, nor suggested by the counsel in their arguments.”

Now the Supreme Court has done that thing in at least the following cases :

Rubber Co. v. Goodyear, 9 Wall. 788 [8 Am. & Eng. 150;] The Cawood Patent, 94 U. S. 695 [11 Am. & Eng. 235;] Elizabeth v. Pavement Co., 97 U. S. 126 [11 Am. & Eng. 514;] Marsh v. Seymour, 97 U. S. 348 [12 Am. & Eng. 53;] Hendrie v. Sayles, 98 U. S. 546 [12 Am. & Eng. 236;] Parks v. Booth, 102 U. S. 96 [12 Am. & Eng. 470.]

These were all very important cases. The opinion of the court in each of them was very elaborate. It plainly appeared in the record that no injunction was granted in either and that in one of them the patent expired long before the bill was filed, and in two others long before the first decree in the court below was entered. If equity has no jurisdiction of patent suits independently of an injunction, then this court never had any jurisdiction of either of those cases, for as is said in the case of Hipp v. Babin, “ No admission of parties can change the law, or give jurisdiction to a court, in a cause of which it hath not jurisdiction.”

It follows that whoever denies the jurisdiction of equity over the bill at bar, seeks to put the Supreme Court of the United States in the position of having unlawfully compelled the Providence Rubber Co. to pay to Mr. Goodyear the sum of \$310,757 ; and of having unlawfully compelled other defendants to pay to other complainants other smaller sums. Such a one seeks also to put several of the circuit judges in the similar predicament, of issuing and enforcing wholly unauthorized and extra-judicial decrees, for in the following

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cases accounts of profits were also decreed without any injunction :

Emigh v. Railroad Co., 2 Fish. 387 ; Jordan v. Dobson, 2 Abb. (U. S.) Rep. 398 ; Bignal v. Harvey, 18 O. G. 1275 ; Stevens v. Railroad Co., 19 O. G. 935 ; Blake v. Mnfg. Co., 19 O. G. 1219 ; Mnfg. Co. v. Haish, 19 O. G. 173.

No exception to the general rule has ever yet been found and applied by any federal court ; and it seems to me none is likely to arise. I have never met in my reading or my practice, or learned from other and older counsel, of any patent likely to be infringed under such circumstances that it would be inequitable for the infringer to be compelled to pay to the patentee the profits he derived from his infringement.

Act of July 8, 1870, § 55, related to remedies for infringements, and provided that, "All actions shall be brought during the term for which the letters patent shall be granted or extended, or within six years after the expiration thereof." That enactment continued to be in full force until the passage of the Revised Statutes, June 22, 1874. It was omitted from that book, and by operation of § 5596, was therefore repealed as to all rights of action thereafter to accrue ; but by virtue of § 5599 it was left in full force as to all *choses* in existence at the date of the repeal. The limitation, therefore, has the same application to the bill at bar which it would have if inserted in the Revised Statutes. Being based on a constructive and not on an express trust, our suit is also as open to the operation of this statute as if it were an action at law, instead of a bill in equity.

Inasmuch, however, as the bill was filed within six years after the expiration of the extended term of our patent, it is conceded not to be barred as to that term. Whether it is barred as to the first term of the patent, depends upon the meaning of the statute. At the same time in which Congress enacted this limitation it also enacted, § 66, that an extended patent shall be regarded in law, as one continuous monopoly of twenty-one years.

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It seems from the foregoing that whether we confine our scrutiny to the words of the limitation, or take also into consideration the collateral light shed by § 66, we are alike carried to the conclusion that the statute bars no part of the bill.

Statutes of limitation were never designed to enable debtors to avoid paying their debts. Their purpose is to induce creditors to sue with such a degree of promptness as the circumstances of particular cases will admit. Rights of action for infringement of patents deserve a much longer limitation than any other rights of action whatever.

Mr. George Payson, for appellee :

Has a court of equity jurisdiction of a suit for infringement after the expiration of the patent? We insist that it has not. The patent having expired, there can be no injunction. But the right to an injunction is the sole basis of equity jurisdiction in patent suits; and where the right to an injunction fails, the right to all other relief fails with it.

This has always been settled law in England. The cases there are all one way. In *Parrott v. Palmer*, 3 Myl. & K. 640, Brougham, Ch. says: "But it may be laid down generally that, unless in the case of mines, the rule is—no injunction, no account." See also, *Jesus College v. Bloom*, 3 Atk. 262; *Smith v. Cooke*, 3 Atk. 381; *Grierson v. Eyre*, 9 Ves. 346; *Universities of Oxford and Cambridge v. Richardson*, 6 Ves. 705; *Bailey v. Taylor*, 1 Russ. & M. 73; *Smith v. London & Southwestern Ry. Co.*, Kay. 408; *Price's Pat. Candle Co. v. Bauwen's Co.*, 4 Kay & Johns. 727; *Davenport v. Ryland*, L. R. 1 Eq. Cas. 302; *Durrell v. Pritchard*, 35 Law Jour., pt. 1, 226; *Calcraft v. Thompson*, 35 Beav. 561; *Betts v. Gallais*, Law Rep., 10 Eq. Cas. 392; *Kerr on Inj.*, 435; *Hindmarch on Pats.* 361; *Dan. Ch. ch. XXVII*, § 1, p. 1080.

It is well settled that the equity jurisdiction of the federal courts "is the same in nature and extent as the jurisdiction in England, whence it is derived."

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Allen v. Blunt, 1 Blatch. 480 ; Robinson v. Campbell, 3 Wheat. 223; Barber v. Barber, 21 How. 592 ; Goodyear v. Prov. Rubber Co., 2 Fish. 508.

And in Brooks v. Bicknell, 3 McLean, 263, it was expressly held that the "rule applicable in England to suits for waste, and on patents, is as applicable here as any other rule."

"The policy in both governments is the same in granting the right and fixing its limits." Shaw v. Cooper, 7 Pet. 319 [4 Am. & Eng. 286.]

In accordance with this rule our courts have often decided that the equity jurisdiction depends solely on the right to an injunction.

The uniform practice in this country, from the foundation of the government down to 1876, is entitled to great weight. During all that time I have been able to find but a single case in which the bill was filed after the expiration of the patent. Cases may indeed be found, both before and since that date, in which an account has been decreed without any injunction, and by judges entitled to the highest respect.

But in most of these cases the question was not raised, while in others the jurisdiction was upheld on grounds that even the appellant has now abandoned. In all of them we find a surprising want of harmony, which, while it does not prove absolutely that none of them can be right, yet tends strongly to that conclusion.

The appellee claims that Congress intended to limit the right to sue on the original term to six years after that term expired ; and in like manner to limit the right to sue on the extended term to six years after that expired.

The language demands that construction, and all reasons of right and equity are in favor of it. What reason or justice can there be in giving the owner of an extension seven years more in which to sue under the first term ?

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Mr. Justice MATTHEWS delivered the opinion of the court :

(a) The appellant filed his bill in the court below on December 9, 1878, as assignee of the letters patent (b) originally granted to Henry Tanner for an improvement in railroad car-brakes, dated July 6, 1852, and which, on July 5, 1866, were renewed and extended for the additional term of seven years, which expired July 6, 1873. It is averred in the bill (c) that by virtue of the assignments to him, the complainant was invested with all rights of action for infringements of the patent which had occurred, and particularly those of which it was alleged the defendant had been guilty from August 6, 1869, to July 6, 1873; having, as is averred, during that period, used upon its railroad cars the patented brakes, but how many, the bill states, the complainant is ignorant and cannot set forth, but avers that the number so used was large, and that defendant had derived, received, and realized great gains and profits therefrom, but to what amount he is ignorant and cannot set forth.

The prayer of the bill is, that the defendant may be compelled to account for and pay to the complainant all the gains, profits, and savings which it derived, received, or realized from or by reason of the use of said brakes.

To this bill a general demurrer was filed, alleging, as grounds thereof, that the bill does not contain any matter of equity on which the court could grant any relief; and that the complainant is not entitled to the relief prayed for, because he had a plain, adequate, and complete remedy at law, and also because it appeared on the face of the bill that the causes of complaint were barred by the Statute of Limitation both of the United States, and of the State of Illinois.

105 U. S. 189-190.

(a) Otto substitutes for from a to b, "Thomas Sayles as assignee of the letters patent filed his bill in the court below on December 9, 1878, against Lake Shore and Michigan Southern Railway Company "

(c) Otto substitutes for "It is averred in the bill " "He avers "

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the question out of its present uncertainty, by a settlement upon some basis of principle, in harmony with our system of equity jurisprudence, developed and modified by legislation. To effect this satisfactorily and intelligently, it will be necessary to review the course of legislation, and judicial decision in this court, so far as it bears upon the question, from the beginning.

Prior to the passage of the Patent Act of 1819, 3 Stat. at L. 481, Congress had passed three laws, in execution of the power conferred by the Constitution itself, and in furtherance of the policy thereby indicated, to secure to inventors an exclusive right of property in their inventions. The first of them, the act of 1790, 1 Stat. at L. 109, gave as a remedy for its violation, an action at law upon the case for damages, and forfeited the infringing article. The next was the act of 1793, 1 Stat. at L. 318, which fixed the rule and measure of damages recoverable in an action at law upon the act at three times the price at which the patentee had usually sold or licensed to other persons the use of the invention. This was changed by the act of 1800, 2 Stat. at L. 37, to three times the actual damage sustained by the patentee by reason of the infringement. By neither of these acts, however, was any jurisdiction conferred upon the courts of the United States in equity. (*g*) To vest such jurisdiction by reason of the subject matter, as a case arising under the laws of the United States, to be exercised in controversies between parties, without regard to difference of (*h*) citizenship, (*i*) it was held by Mr. Justice Livingston, in the case of *Livingston v. Van Ingen*, 1 Paine, 45, (*j*) required the express authority of an act of Congress; and the parties in that case not being citizens of New York, the bill was dismissed. The controversy was thereupon renewed

105 U. S. 191-192.

(*g*) Otto adds "In *Livingston v. Van Ingen*, 1 Paine, 45, Mr. Justice Livingston held that "

(*h*) Otto substitutes for "to difference of" "their"

(*i*) Otto omits from *i* to *j*.

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in the courts of that State ; and the Chancellor having refused the injunction asked for, it was brought by appeal into the court for the correction of errors. 9 Johns. 507. It was there objected that the right in question rested upon statute alone, which prescribed remedies at law for its violation, which, it must be deemed, were intended to be exclusive. But the decision affirmed the jurisdiction. "The principle is," said Chief Justice Kent, p. 587, "that statute privileges, no less than common law rights, when in actual possession and exercise, will not be permitted to be disturbed until the opponent has fairly tried them at law and overthrown their pretension." The same learned Judge refers also to the practice of the Federal Courts in granting injunctions under the patent law, mentioning two instances, one, the case of *Morse v. Reid*, an injunction bill filed in 1796 to restrain the invasion of a copyright ; the other, *Whitney v. Fort*, in which an injunction was granted to restrain the violation of the patent for the cotton-gin. Of course, in those cases, the jurisdiction of the court depended on the citizenship of the parties.

Congress then passed the act of February 15, 1819, which enacted "That the Circuit Courts of the United States shall have original cognizance, as well in equity as at law, of all actions, suits, controversies, and cases arising under any law of the United States, granting or confirming to authors or inventors, the exclusive right to their respective writings, inventions and discoveries ; and upon any bill in equity, filed by any party aggrieved in any such cases, shall have authority to grant injunctions, according to the course and principles of courts of equity, to prevent the violation of the rights of any authors or inventors secured to them by any law of the United States, on such terms and conditions as the said courts may deem fit and reasonable."

In the case of *Sullivan v. Redfield*, 1 Paine, 441, which was decided in 1825, Mr. Justice Thompson, who, in the *Livingston* case, had sat as one of the judges of the State

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court, had occasion to consider the nature of the equity jurisdiction in patent suits. "The equity jurisdiction," he said, "exercised by the court over patents for inventions is merely in aid of the common law, and in order to give more complete effect to the provisions of the statute under which the patent is granted." And in answer to the argument that the act of 1819 gave a peremptory right to an equitable remedy by virtue of the patent itself, he said: "This act does not enlarge or alter the powers of the court over the subject-matter of the bill or the cause of action. It only extends its jurisdiction to parties not before falling within it. Before this act it had been held that a citizen of one State could not obtain an injunction in the Circuit Court for a violation of a patent right against a citizen of the same State, as no act of Congress authorized such suit. This act removed that objection and gave the jurisdiction, although the parties were citizens of the same State. But in the exercise of the jurisdiction in all cases of granting injunctions to prevent the violation of patent rights, the court is to proceed according to the course and principles of courts of equity in such cases. So that the questions presented in the present case are precisely where they would have been without this act.

The substance of the Act of 1819 was incorporated into the 17th sec. of the Patent Act of July 4, 1836, 5 Stat. at L. 117, so far as it related to inventors, but remained in force, after the passage of the latter Act, so far as it gave cognizance to the courts of the United States of cases of copyright. It was under that provision of the Act of 1819 that the case of *Stevens v. Gladding*, 17 How. 447, arose and was decided. That was a bill for an injunction to restrain the violation of a copyright, and prayed for the recovery of the penalties given by the 7th section of the Act of February 3, 1831, and for general relief. Mr. Justice Curtis, delivering the opinion of the court, said: "There is nothing in this act of 1819 which extends the equity powers of the courts to the

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party accountable, as an involuntary trustee, for what the patentee might have realized by the same exercise of the right, as a court of equity sometimes forces the character of a trustee upon an intruder or wrong-doer, or one in possession under color of right, or who takes rents or profits belonging to another, or might have taken them, as in cases of mortgagees ; but it was admitted that the case was of first impression. The decree, upon this point, was reversed. The court said (p. 559:) " We are aware of no rule which converts a court of equity into an instrument for the punishment of simple torts. * * * If the appellees, the plaintiffs below, had sustained an injury to their legal rights, the courts of law were open to them for redress, and in these courts they might, according to a practice, which, however doubtful, in point of essential right, is now too inveterate to be called in question, have claimed, not compensation merely, but vengeance for such injury as they could show they have sustained. But before a tribunal which refuses to listen even to any, save those whose acts and motives are perfectly fair and liberal, they cannot be permitted to contravene the highest and most benignant principle of the being and constitution of that tribunal. There they will be allowed to claim that which, *ex æquo et bono* is theirs, and nothing beyond this." The account was, therefore, restricted to the actual gains and profits of the appellants during the time their machine was in operation.

This rule in relation to the profits recoverable in such suits was followed in *Dean v. Mason*, 20 How. 198 [6 Am. & Eng. 361,] which was a case of a bill for an injunction and account, in which a decree *pro confesso* had been taken. The final decree was entered, on the report of the master, for the estimated amount of profits which the defendant with reasonable diligence might have realized ; not what, in fact, he did realize. This was held to be erroneous. The court said : " The rule in such a case is, the amount of profits received by the unlawful use of the machines, as this, in

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general is the damage done to the owner of the patent. It takes away the motive of the infringer of patented rights by requiring him to pay the profits of his labor to the owner of the patent. Generally, this is sufficient to protect the rights of the owner; but where the wrong has been done, under aggravated circumstances, the court has the power under the statute to punish it adequately by an increase of the damages."

The important case of *Seymour v. McCormick*, 16 How. 480 [6 Am. & Eng. 200,] was decided in 1853. That was an action at law. The court below instructed the jury that the actual damages to which the plaintiff was entitled, for an infringement of a patent for an improvement in a machine, might be determined by ascertaining the profits which, in judgment of law, he would have made, provided the defendants had not interfered with his rights, and that the same rule applied whether the patent covered an entire machine or merely an improvement on a machine. This instruction, this court held to be erroneous, and reversed the judgment on that account. Mr. Justice Grier, in delivering the opinion of the court, referred to the rule of damages, prescribed by the Acts of Congress, previously in force, stating that "Experience had shown the very great injustice of a horizontal rule equally affecting all cases, without regard to their peculiar merits;" and that it was to obviate this that the Patent Act of 1836 confined the jury to the assessment of actual damages, leaving it to the discretion of the court to inflict punitive damages to the extent of trebling the verdict. He then pointed out (*k*) that "It must be apparent to the most superficial observer of the immense variety of patents issued every day, that there cannot, in the nature of things, be any one rule of damages which will equally apply to all cases. The mode of ascertaining actual damages must necessarily depend on the peculiar nature of the monopoly granted;" that a man who invents or discovers a

105 U. S. 195-196.

(*k*) Otto substitutes for "pointed out," "remarked"

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new composition of matter or an entire new machine, (l) may find his profit to consist in a close monopoly (m) the patentee being himself able to supply the whole demand at at his own price, in which cases "The profit of the infringer may be the only criterion of the actual damage of the patentee;" that "One who invents some improvement in the machinery of a mill could not claim that the profits of the whole mill should be the measure of damages for the use of his improvement; and where the profit of the patentee consisted neither in the exclusive use of the thing invented or discovered, nor in the monopoly of making it for others to use, it is evident that this rule could not apply. The case of Stimpson's patent for a turn-out in a railroad may be cited as an example. It was the interest of the patentee that all railroads should use his invention, provided they paid him the price of his license. He could not make his profit by selling it as a complete and separate machine. An infringer of such a patent could not be liable to damages to the amount of the profits of his railroad, nor could the actual damages of the patentee be measured by any known ratio of the profits of the road. * * * It is only where, from the peculiar circumstances of the case, no other rule can be found, that the defendant's profits become the criterion of the plaintiff's loss. Actual damages must be actually proved and cannot be assumed as a legal inference from any facts which amount not to actual proof of the fact." Accordingly it was held in *New York v. Ransom*, 23 How. 487 [7 Am. & Eng. 88,] where the rule in *Seymour v. McCormick*, *supra*, was expressly approved, that in an action at law, if the plaintiff rested his case, after proof of infringement merely, he was entitled only to nominal damages. It was also applied in *Jones v. Morehead*, 1 Wall. 155 [7 Am. & Eng. 165,] which was a bill in equity for an injunction

105 U. S. 196-197.

(l) Otto substitutes for "or an entire new machine," "such as vulcanized India rubber or a valuable medicine,"

(m) Otto adds, "forbidding any one to compete with him in the market"

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that advantage are his profits. * * * That advantage is the measure of profits." On the question of interest, Mr. Justice Strong, speaking for the court, said: "We add only that, in our opinion, the defendant should not have been charged with interest before the final decree. The profits which are recoverable against an infringer of a patent are in fact a compensation for the injury the patentee has sustained from the invasion of his right. They are the measure of his damages. Though called profits, they are really damages, and unliquidated until the decree is made. Interest is not generally allowable upon unliquidated damages. We will not say that in no possible case can interest be allowed. It is enough that the case in hand does not justify such an allowance."

In the case of *Packet Co. v. Sickles*, 19 Wall. 611 [9 Am. & Eng. 280,] which was an action at law, the rule established in *Seymour v. McCormick*, *supra*, was reiterated, as "The established criterion of damages in cases to which it was applicable." "In cases where there is no established patent or license fee in the case, or even an approximation to it, general evidence must necessarily be resorted to," as was said by the court in the case of *Suffolk Co. v. Hayden*, 3 Wall. 315 [7 Am. & Eng. 405.] "And what evidence," said Mr. Justice Nelson, in that case, p. 320, "could be more appropriate and pertinent, than that of the utility and advantage of the invention over the old modes or devices that had been used for working out similar results? With a knowledge of these benefits to the persons who have used the invention, and the extent of the use by the infringer, a jury will be in possession of material and controlling facts that may enable them, in the exercise of a sound judgment, to ascertain the damages, or in other words, the loss to the patentee or owner by the piracy instead of the purchase of the use of the invention." He added that "A recovery does not vest the infringer with the right to continue the use, as the consequence of it may be an injunction restraining the defendant from further use of it."

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Eng. 446,] was one where the patentee, by force of an agreement, held the legal title to the patent in trust for the complainant, in violation of which he was making use of his legal rights. It was held upon a bill filed for an injunction and account, that it was a case under the patent laws, and the defendant was required to account for the profits he had made, according to the rule in *Mowry v. Whitney*, *supra*. The Chief Justice said, p. 230: "Profits actually realized are usually, in a case like this, the measure of unliquidated damages. Circumstances may, however, arise which would justify the addition of interest in order to give complete indemnity for losses sustained by wilful infringements."

On July 8, 1870, Congress passed the Act to revise, consolidate, and amend the statutes relating to patents and Copyrights, 16 Stat. at L. 198. The 59th section renewed the provision previously in force, that damages for infringement might be recovered by action on the case, and that whenever, in any such action, a verdict shall be rendered for the plaintiff, the court may enter judgment therein for any sum above the amount found by the verdict as the actual damages sustained, according to the circumstances of the case, not exceeding three times the amount of the verdict. The 55th section is as follows:

"That all actions, suits, controversies, and cases arising under the patent laws of the United States shall be originally cognizable, as well in equity as at law, by the Circuit Courts of the United States, or any district court having the power and jurisdiction of a circuit court, or by the Supreme Court of the District of Columbia, or of any Territory; and the court shall have power, upon bill in equity filed by any party aggrieved, to grant injunctions, according to the course and principles of courts of equity to prevent the violation of any right secured by patent, on such terms as the court may deem reasonable; and upon a decree being rendered in any such case for an infringement, the complainants shall be entitled to recover in addition to the

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following, as either jurisdiction is resorted to, each according to its kind. For if this be not so, it follows that since the passage of the Act of 1870, an owner of a patent may recover, in a suit in equity, profits and damages in all cases, according to the rule above stated, without seeking any other relief whatever, the effect of which would be to give two remedies, one in equity, the other at law, merely for the recovery of damages for an injury to a legal right, an anomaly not to be found in any other branch of our jurisprudence; and manifestly, upon such a construction, the action at law would soon become obsolete, as completely as if it had been abolished by legislation. The whole force of the change in the statute consists in conferring upon courts of equity, in the exercise of their jurisdiction in administering the relief, which they are accustomed and authorized to give, and which is appropriate to their forms of procedure, the power not merely to give that measure of compensation for the past, which consists in the profits of the infringer, but to supplement it, when necessary, with the full amount of damage suffered by the complainant, and which, if he had sued for that alone, he would have recovered in another forum, with power to increase the amount of the actual damages, as in courts of law. But as the account of profits, previously, was the incident of the suit, and not its object, so now the power to award damages and to multiply them is added as an incident to the right to an account.

But the difference between the state of the law before and after the act of 1870, finds its best illustration in a comparison between two cases, both of which were decided at the October Term, 1877, *Elizabeth v. Pavement Co.*, 97 U. S. 126 [11 Am. & Eng. 514,] and *Marsh v. Seymour*, 97 U. S. 348 [12 Am. & Eng. 53.]

In the former the bill was filed before the passage of the act, but prayed, besides an injunction, for both damages and profits. It was held that the court below had rightly decided that a decree for profits alone could be rendered,

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788 [8 Am. & Eng. 150.]” And these general propositions, he added, will hardly admit of dispute.

Accordingly, in that case, the bill was dismissed as to the City of Elizabeth, which had infringed, because it appeared that it had made no profit from the use of the patented improvement, while a decree was rendered against the contractor, who had laid the pavement which was the subject of the patent, because he was shown to have made profits from the infringement. The municipal corporation, of course, remained liable to respond in damages in an action at law, for any loss which the plaintiff could have established by proof.

The cases of *Marsh v. Seymour*, *supra*, arose under the Act of 1870, and were bills for injunction and account. Decrees were rendered in favor of the complainant, and a reference ordered to a master to state an account of profits. In both cases, the respondents showing that they had made no profits by reason of the use of the invention, the complainant waived his claim for a recovery on that account, and decrees were rendered for damages on the basis of a license fee for the infringing machines which had been sold, and nominal damages for those manufactured but not sold. These decrees were affirmed, the court saying, Mr. Justice Clifford delivering its opinion, that “Damages of a compensatory character may be allowed to a complainant in an equity suit, where it appears that the business of the infringer was so improvidently conducted that it did not yield any substantial profits, as in the case before the court.”

In the case of *Parks v. Booth*, 102 U. S. 96 [12 Am. & Eng. 470,] which was a suit in equity for an injunction, and an account of profits and damages, under the act of 1870, a decree was rendered in favor of the complainant, and for profits and damages as found by a master. Under the head of damages there were included items for expenses of conducting the suit, being counsel fees, compensation for the complainant's time, and interest on the profits. The decree

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royalty, but it was sought by means of, and, therefore, as an incident to, the jurisdiction of the court, invoked for the purpose of enjoining the continuance of what, until the royalty was acknowledged and paid, was found to be an infringement.

All the acts of Congress relating to patents, prior to that of 1870, contained provisions specifying the special defences which might be made in an action at law for an infringement, under the plea of the general issue, notice thereof having been previously given. The 61st section of the act of 1870 enumerates the several special matters thus authorized to be proved, and adds, for the first time in the history of this legislation, the clause that "The like defences may be pleaded in any suit in equity for relief against an alleged infringement, and proofs of the same may be given upon like notice in the answer of the defendant and with the like effect."

The plain and obvious purpose of this provision is, to furnish appropriate modes in equity pleading for the trial of all issues, both of fact and law, relating both to the alleged infringement and the validity of the patent, without the necessity of framing special issues out of chancery for trial by jury, or sending the parties to a court of law for the trial of an action in that forum, in order to determine their legal right. It proceeds upon the idea that the court of equity having acquired jurisdiction, for the purpose of administering the equitable relief sought by the bill, may determine directly and for itself, in the same proceeding, all questions incidental to the exercise of its jurisdiction, notwithstanding they may be questions affecting legal rights and legal titles.

Although this was the first statutory authority for the practice, it was rather a recognition of what had already been established than its introduction; for the practice had, in fact, originated long before, and was based upon well known principles of equity jurisprudence. Whatever ques-

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tinctions between these two jurisdictions, or even to confuse the boundaries between them, as it is alleged was done by the decision in the case of *Nevins v. Johnson*, 3 Blatchf. 80, and perhaps in other subsequent Circuit Court decisions. Indeed, it is the settled doctrine of this court that this distinction of jurisdiction, between law and equity, is constitutional, to the extent to which the 7th Amendment forbids any infringement of the right of trial by jury, as fixed by the common law. And the doctrine applies in patent cases as well as others. This court said in *Parsons v. Bedford*, 3 Pet. 446, speaking of the meaning intended by the framers of that amendment, that "By common law they meant what the Constitution denominated, in the 3d article, LAW, not merely *suits* which the common law recognized among its old and settled proceedings, but suits in which *legal* rights were to be ascertained and determined, in contradistinction to those where *equitable rights* alone were recognized and equitable remedies administered." The rule was repeated in *Fenn v. Holme*, 21 How. 484, in this language: "In every instance in which this court has expounded the phrases, proceedings at the common law, and proceedings in equity, with reference to the exercise of the judicial powers of the courts of the United States, they will be found to have interpreted the former as signifying the application of the definitions and principles and rules of the common law to rights and obligations essentially legal; and the latter as meaning the administration with reference to equitable as contradistinguished from legal rights, of the equity law as defined and enforced by the Court of Chancery in England."

It becomes necessary, therefore, to consider what support there is in the general doctrines of equity for the contention of the appellant.

It is the fundamental characteristic and limit of the jurisdiction in equity that it cannot give relief when there is a plain and adequate and complete remedy at law; and hence it had no original, independent, and inherent power

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Bloom, 3 Atkyn, 262, that "It was a sort of trade;" but the reference is to the case of Bishop of Winchester v. Knight, 1 P. Wms. 406, where the bill prayed for an account of ore dug by the ancestor of the defendant, in respect to which the argument was, that being a personal tort, it died with the person. The decision was that the plaintiff was not entitled, but on this point the Lord Chancellor said: "It would be a reproach to equity to say, where a man has taken my property, as my ore or timber, and disposed of it in his lifetime and dies, that in this case I would be without remedy. It is true as to the trespass of breaking up meadow or ancient pasture ground, it dies with the person; but as to the property of the ore or timber, it would be clear, even at law, if it came to the executor's hands, that trover would lie for it; and if it has been disposed of in the testator's lifetime, the executor, if assets are left, ought to answer it." It is plain from these observations that the assumed ground of the equity jurisdiction was the absence of any remedy at law. Powell v. Aiken, 4 Kay & Johns. 343. It is now clearly established in the English chancery "That a bill will not lie for an account of timber felled any more than for any other money demand, except when the account is asked as an incident to an injunction, and that when the plaintiff has no right to an injunction he has no right to an account, and his remedy is at law alone." Per Sir Wm. M. James, L. J. in Higginbotham v. Hawkins, L. R. 7 Ch. Apps. 679.

The same rule is applied by the modern decisions in cases of mines, where, as incident to the relief sought by a bill, an account is asked of profits against trespassers. It appears that as to the mode of assessing compensation, in such suits, to an owner of coal which has been improperly worked by the owner of an adjoining mine, a different principle is applicable when the coal is taken inadvertently, or under a *bona fide* belief of title, and when it is taken fraudulently, with knowledge of the wrong. In cases of the latter description, at law, the strict rule of damages laid down in Martin

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advantage. He then referred to *Crossley v. Beverley*, Web. Pat. Cas. 119 [1 Am. & Eng. 425,] as a case where there was a specific ground for that relief, that the defendants had been manufacturing the patented articles, secretly and fraudulently, for the purpose of pouring into the market the articles so manufactured directly the patent should have expired. In that case the bill was filed before the expiration of the patent, and the right to sue having been thus acquired, the court extended it to restrain using the articles so manufactured after the patent had expired. "Such a case," continues the Vice-Chancellor, "of a fraudulent attempt to evade the patent might occur, as would enable the court to restrain the use of articles made in infringement of the patent and kept back until it expired, even after its expiration, and the plaintiff having thus obtained a right to the injunction, the right to an account would follow."

In the case of *Price's Pat. Candle Co. v. Bauwen's Co.*, 4 Kay & Johnson, 727, the bill was dismissed, because the patent having expired *pendente lite*, the relief by injunction could not be granted at the hearing; but in *Davenport v. Rylands*, L. R. 1 Eq. Cas. 302, the same judge retained the bill, under similar circumstances, for the purposes of an inquiry as to damages, because the Act of 21 and 22 Vict. c. 27, commonly called Cairn's Act, passed after the former decision, had altered the rule. That statute declared that in all cases in which the court has jurisdiction *to entertain an application* for an injunction against a breach of any covenant, contract, or agreement, or against the commission or continuance of any wrongful act, or for the specific performance of any covenant, contract, or agreement, the same court may award damages to the party injured either in addition to or in substitution for such injunction or specific performance, and such damages may be assessed in such manner as the court shall direct; a provision which no doubt suggested the like extension of the jurisdiction of the court in patent cases, contained in our Patent Act of 1870. But

the Act, in cases in which an account might be decreed; and that the patentee must, as it was expressly decided by the House of Lords, in *De Vitre v. Betts*, L. R. 6 H. L. 321, in all cases when he has a decree, elect whether he will have an account of profits or an inquiry as to damages, and cannot have both. Under the Act of Congress of 1870, he may recover damages in addition to the profits to be accounted for by the defendant; but as the recovery is limited by the Act to the actual damages, it is manifest that the recovery of damages and profits is not intended to be double, but that when necessary the damages are to supplement that loss of the complainant which the profits found to have been received are insufficient to compensate, subject to the power of the court as to their increase, as in case of verdicts.

This firm and indisputable doctrine of the English chancery has been recognized and declared by this court, in *Hipp v. Babin*, 19 Howard, 271, to be part of the system of equity jurisprudence administered by the courts of the United States, founded not only upon the legislative declaration in the Judiciary Act of 1789, "That suits in equity shall not be sustained in either of the courts of the United States in any case where plain, adequate, and complete remedy may be had at law," but also upon the intrinsic distinctions between the different jurisdictions of law and equity. In delivering the opinion of the court in that case, Mr. Justice Campbell remarked that "The practice of the courts of the United States corresponds with that of the chancery of Great Britain, except where it has been changed by rule, or is modified by local circumstances or local convenience;" and cited the instances in which "This court has denied relief in cases in equity, where the remedy at law has been plain, adequate, and complete, though the question was not raised by the defendants in their pleadings nor suggested by the counsel in their arguments." He then adds: "And the result of the argument is, that whenever a court of law is competent to take cognizance of a right and has power to

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complexity of the account has afforded a motive for the interposition of a court of chancery to decide the title, and to adjust the account."

These principles were announced in a case for the recovery of the possession of real estate held adversely, but they are of general application, and embrace, as well, the case of torts to personalty, and infringements of patent and copyrights.

The distinct ground upon which the opposite view is presented to us in argument is, that the infringer of a patent right is, by construction of law, a trustee of the profits derived from his wrong, for the patentee, and that a court of equity, in the exercise of its acknowledged jurisdiction over trusts and trustees, will require him to account as trustee, without reference to any other relief. And in support of this contention we are referred to passages in the judgments of this court in the cases of *Packet Co. v. Sickles*, 19 Wall. 611 [9 Am. & Eng. 280;] *Burdell v. Denig*, 92 U. S. 720 [10 Am. & Eng. 420;] and *Birdsall v. Coolidge*, 93 U. S. 68 [10 Am. & Eng. 445;] all of which have been already cited in this opinion.

But the inference sought to be drawn from the expressions referred to is not warranted. It is true that it is declared in those cases that, in suits in equity for relief against infringements of patents, the patentee, succeeding in establishing his right, is entitled to an account of the profits realized by the infringer, and that the rule for ascertaining the amount of such profits is that of treating the infringer as though he were a trustee for the patentee, in respect to profits. But it is nowhere said that the patentee's right to an account is based upon the idea that there is a fiduciary relation created between him and the wrong-doer, by the fact of infringement, thus conferring jurisdiction upon a court of equity to administer the trust and to compel the trustee to account. That would be a *reductio ad absurdum*, and if accepted, would extend the jurisdiction of equity to

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ministration and not of jurisdiction; and although the creature of equity, it is recognized as well at law, as one of the measures, though not the limit, for the recovery of damages.

The case is not within the principle, according to which, in certain circumstances, a court of equity decrees a wrong-doer to be a trustee *de son tort*, and exerts its jurisdiction over him in that character. Where a defendant has wrongfully intermeddled with property already impressed with a trust, he may be required as a trustee to account for it, as was done in the case of *The People v. Houghtaling*, 7 Cal. 348, because trust property may be followed, wherever it can be traced, into whosoever possession it comes, except that of a *bona fide* purchaser without notice. It is the character of the property, and not the wrong done in converting or withholding it, that constitutes the wrong-doer a trustee.

Our conclusion is, that a bill in equity for a naked account of profits and damages against an infringer of a patent, cannot be sustained; that such relief ordinarily is incidental to some other equity, the right to enforce which secures to the patentee his standing in court; that the most general ground for equitable interposition is, to insure to the patentee the enjoyment of his specific right by injunction against a continuance of the infringement; but, that grounds of equitable relief may arise, other than by way of injunction, as where the title of the complainant is equitable merely, or equitable interposition is necessary on account of the impediments which prevent a resort to remedies purely legal; and such an equity may arise out of and inhere in the nature of the account itself, springing from special and peculiar circumstances which disable the patentee from a recovery at law altogether, or render his remedy in a legal tribunal difficult, inadequate, and incomplete; and as such cases cannot be defined more exactly, each must rest upon its own particular circumstances, as furnishing a clear and satisfactory ground of exception from the general rule.

8. Infringer as trustee:

Packet Co. v. Sickles, 19 Wall. 611 [9 Am. & Eng. 280.]

Ambler v. Whipple, 20 Wall. 546 [9 Am. & Eng. 410.]

9. Equity jurisdiction. Expired and expiring patents:

Bourne v. Goodyear, 9 Wall. 811 [8 Am. & Eng. 209.]

Valve Co. v. Valve Co., 113 U. S. 157.

Clark v. Wooster, 119 U. S. 322.

Beedle v. Bennett, 122 U. S. 71.

Patent in suit:

No. 9,109. Thompson and Bachelder. July 6, 1852. Car-
Brake.

OTHER SUITS ON SAME PATENT:

Sayles v. Chicago & North Western Ry. Co., 1865. 1 Biss. 468;
2 Fish. 523.

Sayles v. Chicago & North Western R. R. Co., 1871. 3 Biss. 52;
4 Fish. 584.

Mowry v. Grand St. & Newtown R. R. Co., 1872. 10 Blatch. 89;
5 Fish. 586.

Railway Co. v. Sayles, 1878. 97 U. S. 554 [12 Am. & Eng. 121.]

Sayles v. Dubuque & Sioux City R. R. Co., 1878. 5 Dill. 561; 3
Ban. & Ard. 219; 9 Fed. Rep. 516.

Hendrie v. Sayles, 1879. 98 U. S. 546 [12 Am. & Eng. 235.]

Sayles v. Richmond, F. & P. R. R. Co., 1879. 3 Hughes, 172; 4
Ban. & Ard. 239; 16 O. G. 43; 7 Reporter, 743.

Sayles v. Oregon Central Ry. Co., 1879. 6 Sawy. 31; 4 Ban. &
Ard. 429.

Sayles v. Louisville City R. R. Co., 1881. 9 Fed. Rep. 512.

Notes and citations.

- Reay Ex'x. v. Raynor**, January, 1884. 22 Blatch. 13; 19 Fed. Rep. 308; 26 O. G. 1111.
- Davis v. Smith**, March, 1884. 19 Fed. Rep. 823.
- Jenkins v. Hannon**, April, 1884. 26 Fed. Rep. 657.
- McLaughlin v. Peoples' Ry. Co.**, September, 1884. 21 Fed. Rep. 574; 29 O. G. 277.
- Steam Stone Cutter Co. v. Sheldons**, October, 1884. 22 Blatch. 484; 21 Fed. Rep. 875.
- New York Grape Sugar Co. v. Peoria Grape Sugar Co.**, October, 1884. 21 Fed. Rep. 878; 32 O. G. 138.
- Boston v. Fairhaven Iron Works**, November, 1884. 29 Fed. Rep. 782.
- In re Boston v. Fairhaven Iron Works*, April, 1885. 23 Fed. Rep. 880; 19 Reporter, 649.
- Smith v. Sands**, April, 1885. 24 Fed. Rep. 470; 32 O. G. 1467; 20 Reporter, 326.
- Hewitt v. Penna. Steel Co.**, May, 1885. 24 Fed. Rep. 367; 31 O. G. 1687.
- Crandall v. Plano Mnfg. Co.**, August, 1885. 24 Fed. Rep. 738; 32 O. G. 1123; 20 Rep. 237.
- Mershon v. J. F. Pease Furnace Co.**, August, 1885. 23 Blatch. 329; 24 Fed. Rep. 741; 32 O. G. 1011.
- Lord v. Whitehead & Atherton Machine Co.**, August, 1885. 24 Fed. Rep. 801; 33 O. G. 499.
- Dick v. Struthers**, September, 1885. 25 Fed. Rep. 103; 34 O. G. 131; 20 Reporter, 643.
- Brick v. Staten Island Ry. Co.**, November, 1885. 25 Fed. Rep. 553.
- Consolidated Safety-Valve Co. v. Ashton Valve Co.**, January, 1886. 26 Fed. Rep. 319.
- Adams v. Bridgewater Iron Co.**, February, 1886. 26 Fed. Rep. 324; 34 O. G. 1045.
- New York Belting & Packing Co. v. Magowan**, March, 1886. 27 Fed. Rep. 111; 34 O. G. 1278.
- Racine Seeder Co. v. Joliet Wire Check Rower Co.**, April, 1886. 27 Fed. Rep. 367.
- Kirk v. DuBois**, August, 1886. 28 Fed. Rep. 460.
- Brooks v. Miller**, 1886. 28 Fed. Rep. 615.

Account of Damages.

See Jurisdiction, 2.

Actual Damages.

See Profits, 1.

Aggregation.

See Combination, 2 ; Particular Patents, 20.

Antedate.

1. Tilghman's patent *held* properly antedated under the law in force at the time of its grant, (Act 1839, sec. 6.)
Tilghman v. Proctor 29

Art.

See Process, 1.

Assignment.

1. The decree below, appointing a trustee to execute an assignment of the patent right, if the patentee should not himself execute one, *held*, clearly within the chancery powers of the court and affirmed. Ager v. Murray . 531
 2. Assignments of patents are not required to be under seal. The statute R. S., sec. 4898, simply provides that "every patent or any interest therein shall be assignable in law by an instrument in writing." Gottfried v. Miller, 410
- See Abandonment, 3.

Burden of Proof.

1. The appellant, upon whom rests the burden of proving infringement, not having produced the necessary proof, the decree below is affirmed. Price v. Kelly 191
- See Escrow, 1 ; Infringement, 1 ; Public Use or Sale, 1 ; Validity, 1.

Change of Material.

See Particular Patents, 16.

Change of Use.

1. *Held* that it was not a patentable invention to merely change the use of an old device, a wheel which had never been used under water as a turbine, by placing it in a different position in regard to the water. Swain Turbine Mnfg. Co. v. Ladd 1
- See Particular Patents, 9, 18.

Claim.

1. In view of Act 1836, sec. 6, substantially re-enacted in

the idea of driving more than one nail at the same time in the manufacture of boxes by machinery, it was *held*, that by his patent he appropriated to himself only so much of the field of invention which his idea embraced as was covered by the machine described in his specification and claimed in his application. *Wicke*

v. Ostrum 114

Construction of Statutes.

1. Review of the statutes and decisions relating to equity jurisdiction in patent cases ; Act February 15, 1819 ; Act 1836, sec. 17 ; Act 1870, secs. 55 and 59 ; R. S., secs. 4919 and 4921. *Root v. L. S. & M. S. Ry. Co.* . . . 556
2. Act 1832, (sec. 3 ;) Act 1836, (sec. 13 ;) Act 1870, (sec. 53 ;) statutes relating to reissues reviewed and *held*, that it was not the special purpose of the legislation upon reissues to authorize the surrender of patents for the purpose of reissuing them with broader and more comprehensive claims, although under the general terms of the law such a reissue may be made when it clearly appears that an actual mistake has inadvertently been made, not from a mere error of judgment, but a real *bona fide* mistake, such as a court of chancery in cases within its ordinary jurisdiction would correct. *Miller v. Brass Co.* 303
3. The whole force of the change in the law contained in the fifty-fifth section of the Act of 1870 (R. S., sec. 4921,) whereby the complainant is entitled to recover, in addition to the profits to be accounted for by the defendant, the damages the complainant has sustained thereby, consists in conferring upon courts of equity in the exercise of their jurisdiction in administering relief which they are accustomed and authorized to give, the power, not merely to give that compensation for the past which consists in the profits of the infringer, but to supplement it when necessary with the full amount of damages suffered by the complainant. In other words, the power to award damages and to multiply them is added as an incident to the right to an account. *Root v. L. S. & M. S. Ry. Co.* 556
4. The plain and obvious purpose of the provision of the sixty-first section of the Act of 1870, that "the like defences may be pleaded in any suit in equity for relief against any alleged infringement, and proofs of the same may be given upon like notice in the answer of the defendant and with the like effect," is to furnish appropriate

Corporation.

1. The fact that a person holds stock in a company gives him no title to its property, and the attachment of such stock in the hands of a stockholder for a personal debt of the stockholder does not in any way encumber the property of the company. *Gottfried v. Miller*, . . . 410

Damages.

See Construction of Statutes, 3; Profits, 1; Reissue, 5.

Date of Application.

1. In the absence of all other proof the date of the patent will be taken as the date of application and the date of assignment. *Worley v. Loker Tobacco Co.* 291
- See Particular Patents, 10.

Date of Assignment.

See Date of Application, 1.

Date of Invention.

1. The date of invention of the device covered by the patent on which infringement suit was brought, fixed at the time when the inventor perfected the invention, made models of the device, and entered into a contract for its manufacture. (Affirmed.) *Sandusky Seat Co. v. Comstock* 222

Date of Patent.

See Date of Application, 1.

Defences.

See Construction of Statutes, 4.

Delay.

See Claim, 2.

Delay in reissuing.

See Disclaimer, 1; Particular Patents, 14, 17, 24; Reissue, 6, 7, 8.

Disclaimer.

1. *Semble*, that a public disclaimer in a patent consisting in the omission to claim devices and combinations apparent upon the face of the patent, which is not corrected by reissue within two years, should be construed equally favorable to the public, as the two years' public enjoyment of the invention with the allowance and consent of the inventor which is a bar to the application. *Miller v. Brass Co.* 303

for using an invention only for and in behalf of the Government, and whether the Court of Claims is not the only tribunal in which the claim for compensation can be prosecuted. *James v. Campbell* 341

See Right to Use, 1.

Identity.

1. If it appears from the face of the instruments that extrinsic evidence is not needed to explain terms of art or to apply the descriptions to the subject-matter, so that the court is able from mere comparison to say what are the inventions described in each, and to affirm from such mere comparison that they are not the same but different, then the question of identity is one of pure construction and not of evidence, and consequently is matter of law for the court without any auxiliary matter of fact to be passed upon by a jury if the action be at law, notwithstanding what was said in *Battin v. Taggart*, 17 How. 74 [6 Am. & Eng. 243.] *Heald v. Rice*, 460

Identity of original and reissue.

See Particular Patents, 12, 14, 17, 24 ; Reissue, 1, 12.

Improvement.

1. The introduction of an improvement gives no title to use the primary invention improved upon. *Tilghman v. Proctor* 29

Infringement.

1. Where the answer, which was under oath, denied infringement, *held*, that infringement must be shown by satisfactory proof; it cannot be presumed. *Lehigh Valley R. R. Co. v. Mellon* 269
2. When, in view of the state of the art, the patentee's claim must be construed to be for the specific arrangement of devices invented by him, the defendants do not infringe unless their devices are in the same specific form. *Matthews v. Boston Machine Co.* 501

See Burden of Proof, 1; Particular Patents, 2, 3, 5.

Invention.

Change in use.

See Change in Use, 1; Combination, 2; Particular Patents, 9, 13, 16, 18, 20.

Inventor.

1. A patentee who is the first to make an invention is entitled to his claim for all the uses and advantages which be-

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possession it comes, except that of a <i>bona fide</i> purchaser, without notice. Root v. L. S. & M. S. Ry. Co. . . .	556
4. A bill in equity brought under law of 1870, after the expiration of the patent, and not asking therefore for an injunction or other equitable relief, but for a naked account of profits, and it not appearing from the allegations of the bill that there were any circumstances that would render an action at law for the recovery of damages an adequate remedy for the wrongs complained of, was dismissed. Root v. L. S. & M. S. Ry. Co. . . .	556
See Assignment, 1; Construction of Statutes, 1, 5; Government Officer, 1.	

Machine.

Machine reissued for process.

1. The rule reiterated that a patent for a machine cannot be reissued for the purpose of claiming the process of operating that machine, because if the claim for the process is anything more than for the use of the particular machine patented it is for a different invention. Campbell v. James, 104 U. S. 356 [p. 341 ante.] Heald v. Rice,	460
See Reissue, 12.	

Nominal Damages.

See Profits, 1.

Notice.

1. <i>Quare</i> whether facts showing substitution of material not amounting to invention, are not such that the court can take judicial notice of them. Brown v. Piper, 91 U. S. 37 [10 Am. & Eng. 272.] The defence overruled, not having been set up regularly in the answer, with leave to raise the question in the Supreme Court. (Affirmed.) Sandusky Seat Co. v. Comstock	222
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Novelty.

1. The accidental formation of a product by a process never fully understood, from which no hint was derived by those engaged in the art of making the product as to a practical process for its manufacture, <i>held</i> not an anticipation of a patented process for making such product. Tilghman v. Proctor	29
See Particular Patents, 1, 6, 7, 20.	

Particular Patents.

1. Letters patent, No. 11,766, R. A. Tilghman, October 3, 1854,	
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- both sides of a steak may be cooked equally and at the same time, *held*, not anticipated by letters patent, No. 66,911, D. C. Teller, July 16, 1867, in which the flame is not divided at all, but reaches the side of the steak by impinging against an upper deflector; neither by letters patent, No. 28,781, Wm. F. Shaw, June 19, 1860, in which a broiler wherein the flame is caused to enter the bottom of the vessel in the form of a hollow cylinder, cooking the edge of the steak more rapidly than the other portions. *Sharp v. Dover Stamping Co.* . . . 77
7. The claim of letters patent, No. 96,959, Race and Matthews, November 16, 1869, Hydrant Casing, *held*, wanting in novelty. *Matthews v. Boston Machine Co.* 501
8. When every other part of the invention described in letters patent, No. 134,404, H. M. Stow, December 31, 1872, Pavement, was shown to be old, doubted whether it can be called invention to have the ground in the spaces between the blocks more compactly rammed, so as to drive it below the under surface of the pavement into the earth foundation; but the evidence failing to show that the defendant used this feature of the invention, the bill is dismissed. *Stow v. City of Chicago*, 426
9. Letters patent, No. 143,000, granted October 14, 1873, to John J. Vinton, for an Improvement in the Manufacture of Iron from Furnace Slag, *held*, to be invalid in view of facts developed by the testimony as to knowledge and use of the invention therein claimed by others prior to the invention or discovery of the patentee; *construed* to be, in a process of reducing slag, the application to a cupola-furnace of the cinder-notch, and *held*, in view of the previous use in the blast furnace of the cinder-notch to accomplish the same end, devoid of invention. When applied to a cupola-furnace the cinder-notch performed the same function in the same way. *Vinton v. Hamilton*, 394
10. Letters patent, No. 181,512, granted to Christian Worley and Henry McCabe, August 22, 1876, for an Improvement in the Mode of finishing Plug Tobacco, *construed* to be for a process and *held*, in default of evidence of the date of the application, to have been applied for on same date as that of the grant of the patent and *held*, to be invalid, the evidence showing that the invention had been in open and public use for more than two years prior to the filing of the application which was not avoided by inventor's assignment of the invention to the prior user. *Worley v. Loker Tobacco Co.* . . . 291

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15. Reissue letters patent, No. 4,780, granted March 5, 1872, to Comstock, Booth, and Booth, assignees, for carriage bodies and seats, examined and sustained. (Affirmed.) Sandusky Seat Co. v. Comstock 222
 16. *Doubted* whether the invention involved in reissued letters patent, No. 4,780, Comstock, Booth, and Booth, March 5, 1872, (original No. 95,466, S. P. Graham, October 5, 1869,) for Carriage Bodies and Seats, is not in substance only the substitution of one material for another, iron for wood, and whether, hence, there is not a want of patentability. (Affirmed.) Sandusky Seat Co. v. Comstock 222
 17. Where the single claim of the original letters patent, No. 19,206, Race and Matthews, January 26, 1858, Hydrant Casing, was for a combination, and the reissued patent No. 4,887, April 30, 1872, had separate claims which embraced fewer elements in combination than were embraced in the claim of the original patent, *held*, that the reissue was not merely for broader claims made many years after the original was granted, but for a different invention. That by surpressing the description of certain parts of the device the reissued patent is made to cover by implication an invention described and claimed in a subsequent patent. That the original showed on its face that these broad claims were not made; that the patentees, if they were the inventors of such subject-matter, when apprised that it was not claimed in the patent, should have used due diligence in surrendering the patent and having the mistake corrected. Fourteen years was too long a period of delay. Matthews v. Boston Machine Co. 501
 18. Where original letters patent, No. 28,314, A. M. Swain, May 15, 1860, Turbine Wheel, described but did not claim a wheel of particular construction and form, and its reissue, No. 5,154, November 19, 1872, sought by a sweeping generalization to monopolize by its claims all wheels having a certain flow and discharge, irrespective of the shape of certain parts, *held* that the reissue claims were properly construed and restricted in accordance with the limitations in the original patent, in order to avoid the conclusion that it was for a different invention. *Held* that if broadly construed, the wheel was for a mere change of use of a prior invention, by placing it in a different position with regard to the water, which was not patentable. Swain Turbine Mnfg. Co. v. Ladd 1
 19. When the inventor made and gave to a person for use two

	PAGE.
22. Claim 1 of reissued letters patent, No. 6,422, H. W. Rice, May 4, 1875, Steam Boiler, for "the boiler, A, having the furnace, C, grate, D, return flues or tubes, <i>e e</i> , and stack or chimney, B, in combination with the straw feeding furnace door attachment, substantially as and for the purpose described," <i>held</i> , anticipated by reissued letters patent, No. 6,420, D. Morey, May 4, 1875, (original patent, No. 135,659, February 11, 1873.) Straw-feeding attachments for furnaces, which, in covering the combination of the feeding-tube with any kind of thrashing engine or boiler, necessarily includes the combination of the feeding-tube with the return-flue boiler. This particular application of the feeding-tube to the return-flue boiler is within the scope and provision of Morey's invention, whether it had been tested by his experience or was anticipated by his foresight or not. It is a mere analogous use. <i>Heald v. Rice</i> ,	460
23. Reissued letters patent, No. 6,693, McGregor and Voll, October 11, 1875, (Original No. 88,318, March 30, 1869,) construed and <i>held</i> , that if construed to cover the alleged infringing device, it was void, as including a previous abandoned invention of one only of the joint patentees, and was also void as being broader than the original invention ; if limited, it was not infringed. <i>Hopkins & Dickinson Mnf. Co. v. Corbin</i>	147
24. Claim 2 of reissued letters patent, No. 6,844, of J. E. Ambrose, January 11, 1876, Lamp, for a single dome with a chimney, <i>held</i> , to be for a different invention from that described and claimed in the original patent, No. 30,381, October 16, 1860, for a double dome without a chimney, the peculiarity being the use of the double dome as dispensing with a chimney, and is void ; <i>held</i> , that the mistake, if it was one, was apparent upon the first inspection of the patent, and that the right to correct it was abandoned and lost by unreasonable delay. <i>Miller v. Brass Co.</i>	303

Parties.

See Government Officer, 1.

Patent.

See Judgment Debt, 1.

Patentability.

See Process, 5.

Public Use.

1. To constitute the public use of a patent it is not necessary that more than one of the patented articles should be publicly used. The use of a great number may tend to strengthen the proof of public use, but one well defined case of public use is just as effectual to annul the patent as many. *Egbert v. Lippmann* 273
2. Whether the use of an invention is public or private does not necessarily depend upon the number of persons to whom its use is known. *Egbert v. Lippmann* 273
3. If an inventor, having made his device, gives or sells it to another, to be used by the donee or vendee without limitation or restriction or injunction of secrecy, and it is so used, such use is public within the meaning of the statute, even though the use and knowledge of the use may be confined to one person. *Egbert v. Lippmann*. 273
4. A use of an invention is a public use within the meaning of the law if the inventor sells a machine of which his invention forms a part and allows it to be used without restriction of any kind, although, owing to the character of the invention, it can only be used when it cannot be seen or observed by the public eye. *Egbert v. Lippmann* 273

See Abandonment, 1, 3; Experimental Use, 1.

Public Use or Sale.

1. The mere making of the invented article more than two years before applying for letters patent, is quite immaterial, and where there is a doubt upon the evidence as to public use or sale of the article under like circumstances, the doubt should be resolved against the respondents, upon whom rests the burden of proof. *Coffin v. Ogden*, 18 Wall. 120 [9 Am. & Eng. 125.] (Affirmed.) *Sandusky Seat Co. v. Comstock* 222

Reissue.

1. The law authorizing reissues of patents was never intended to allow the scope of a patent to be enlarged so as to include and embrace within it matters and things that were not embraced in the original invention. *Swain Turbine & Mnsfg. Co. v. Ladd* 1
2. Claims improperly made, or which had been made too broad, may be restricted, and mistakes inadvertently

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- made,—not errors
Swain Turbine & 1
3. A reissue can only be
was originally pate
before obtaining
done all those thin
in or cover by the
purpose. Swain T
 4. Any extension of a reis
invention set forth
specifications, draw
the patent itself. 1
 5. If a reissue is granted,
as grow out of the r
der the original. 7
for the purpose of f
tion of priority, and
the patent is to run
important; no dam
of infringement com
v. Collins
 6. Where on reissue, the
the claim of the orig
might have been,
face of the patent w
that the suggestion
specification was a
the mistake was app
the patent; and if a
have been applied f
have it corrected wa
ble delay. Miller r
 7. If a patentee who has
specification, except
more comprehensive
to the Patent Office,
curred, his applicati
Brass Co.
 8. Where the matter sough
purpose of enlarging
on the face of the in
of the original paten
for the courts to deci
the reissue was unre
was therefore contr
Brass Co.

- PAGE.
9. Expansion of reissue claims condemned. *Miller v. Brass Co.* 303
 10. If a patent fully and clearly describes and claims a specific invention, complete in itself, so as not to be inoperative or invalid by reason of a defective or insufficient specification, a reissue cannot be had for the purpose of expanding and generalizing the claim so as to embrace an invention not specified in the original. *Burr v. Duryee*, 1 Wall. 531 [7 Am. & Eng. 224.] *James v. Campbell*. (Re-affirmed.) 341
 11. In such case the court ought not to be required to explore the history of the art to ascertain what the patentee might have claimed. He is bound by his statement of what his invention was. *James v. Campbell* 341
 12. A patent for a machine cannot be reissued for the purpose of claiming the process of operating that class of machines, because, if the claim for the process is anything more than for the use of the particular machine patented, it is for a different invention. *Powder Company v. Powder Works*, 98 U. S. 139 [12 Am. & Eng. 201.] (Reaffirmed.) *James v. Campbell* 341
 13. In cases of reissues of patents, inoperative or invalid by reason of a defective or insufficient specification, or by reason of the patentee claiming as his own invention or discovery more than he had a right to claim as new, it is imperative that the new patent, when issued, shall be for the same invention, and that no new matter shall be introduced into the specification when, as in the present case, there is a drawing, with reference to which the invention is described. *Heald v. Rice* 460
- See Abandonment, 4; Construction of Statutes, 2; Disclaimer, 1; Particular Patents, 4, 11-24; Surrender, 1, 2.

Right to Use.

1. The Government of the United States has no right to use a patented invention without compensation to the owner of the patent. *James v. Campbell* 341
2. Where Stromberg sold to Miller a machine and the right to use the same, and Stromberg subsequently acquired an interest in the patent covering the machine, *held*, that such sale was a license to Miller to use the machine so far as Stromberg could grant a license. *Gottfried v. Miller* 410

Sale.

1. The question raised, but not determined, whether the sale

entee was in the same circumstances as he would have been if his original application for a patent had been rejected. The surrender of a patent was an abandonment of it, and an applicant for reissue took upon himself the risk of getting a reissue or of losing all. The question of his right to any patent at all was opened anew as upon an original application for a patent. *Peck v. Collins*

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See Particular Patents, 4.

Trustee.

See Jurisdiction, 3.

Validity.

1. The patent is *prima facie* valid. It is a muniment of title. He who would overcome it must do so by a clear preponderance of evidence. (Affirmed.) *Sandusky Seat Co. v. Comstock*

222

Void Patent.

See Particular Patents, 4, 7, 9, 10, 12, 13, 14, 19, 24.

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